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99 Aircraft, Charlie!

"Hook Up! In the Groove" by James Dietz, U.S. Naval Institute



Since the early days of carrier aviation, the signal "charlie" has told the air wing when it's time to land. Before the advent of radios, the signal was passed via Morse code to the aircraft orbiting overhead in the hawk circle. Even when radios superceded Morse code in tower-to-aircraft communication, the term remained. Today, when the air boss wants you, he says one word: "Charlie."

It has been 66 years since LCdr. Chevalier made the first landing aboard the *Langley* (CV-1), the Navy's first commissioned aircraft carrier. Rumor has it that not long afterwards, when an aircraft was having difficulty coming aboard, an aviator grabbed two sailors' white dixie cup hats and waved the aircraft down. Thus began a long relationship between the carrier and the LSO.

Eventually, aviators recognized that someone on the ship had to monitor each approach and give advice. An experienced pilot was given a pair of semaphore flags and the responsibility to bring aircraft aboard safely. These flags were later replaced with specially designed "paddles," which gave LSOs the nickname they carry today. Even though the paddles have been replaced by the lens and radio, the rôle of the LSO is still crucial.

This issue of Approach is dedicated to both the aircraft carrier and the LSO. Not all carrier stories involve the LSO; helicopter pilots don't catch wires. At the same time, all LSO stories don't occur aboard the carrier. The LSO's job begins ashore, training aircrews how to make carrier landings.

The flight deck is often called the most dangerous acre on earth. One writer called it "a million accidents waiting to happen." I hope this issue will help keep those potential mishaps just that: potential.

LCdr. Dave Parsons
Editor

inside approach

Vol. 34 No. 4

Dramatic painting of USS *Kitty Hawk* (CV-63) titled *Those Last Critical Moments* by William S. Phillips. Copyright 1987 by the Greenwich Workshop, 30 Lindeman Dr., P.O. Box 393, Tromball, CT 06611-0393.

FEATURES

Psych 101 for LSOs	2	And Life Goes On	31
By Lt. Kevin P. Miller. The LSO must have not only technical and operational expertise but also a "bedside manner."		By AME1 Steven R. Killmer. The dangers of the flight deck high tempo environment are ever present.	
The Total LSO	6	Looking Good, Looking Bad	32
By LCdr. Chris Andersen. Waving a pass is only part of the LSO's job.		By Lt. Herb A. Arnold. An EA-6B on cat 4 could have clipped the wing of an F/A-18.	
Proficiency Demands Practice	8	The Night Paddles Robbed My Wife	34
By Lt. Jim Galanis. "Gee, Paddles, why are you flashing those red lights at me?"		By Lt. Tom Ganse. Only an LSO came between this A-7 pilot and the water on his approach to the carrier.	
Nuggets Don't Float	9	Just a Typical Day?	36
By Ltjg. Paul Dragos. A Nugget's first time aboard the ship.		By Lt. Victor G. Warriner. When the conduct of a mission becomes routine, the first added variable leads to trouble.	
Think It Out . . . Before It Happens	10	Headwork	38
By LCdr. Tony Kiggins. An F/A-18 on fire off the cat.		By Lt. John Shattuck. A bingo tale that almost led to a headwork disaster.	
The Rooster Tail vs. The Burble	12	"In Sickness and in Health"	39
By LCdr. Don Bringle. Winds across the flight deck must be reckoned with.		By Lt. James R. Brown. The flight surgeon is around to keep you up, not ground you.	
Old Trackers Never Die	15	My First CQ	44
By Lt. Eduardo Reul Gauna. An Argentinian S-2F loses an engine after a cat shot from the carrier.		By Ltjg. James B. Clark III. A T-2 on the Lex has a close encounter with a C-2 Greyhound.	
"Rig the MOVLAS, Station 3."	16	Slip Sliding Away, Slip Sliding Away	46
By LCdr. Phil Grandfield. Station 3? Where's that?		By Lt. Jim Benham. Preflighting his Tomcat on a dark night ended in a surprise.	
Bolter! Bolter!	18	What a Day!	47
By U.S. Navy LSO School Class 8-86. Abnormal wind recoveries can challenge the LSO's expertise.		By CW02 D. Herron. An eventful day on the flight deck.	
Who Are All Those People on the Platform?	19	Nobody's Perfect	48
By U.S. Navy LSO School Class 8-86. They're the Landing Safety Team dedicated to bring each aircraft aboard safely.		By Lt. Randy Mahr. The A-6 was five miles behind the boat, rapidly approaching zero lift.	
It Ain't Over Til It's Over	20	Pattern Management	49
By Lt. Tom Gray. A KA-6D crew has a surprise ending to their flight.		By Lt. Robert R. Smith. Working a full FLCP pattern in marginal weather with different aircraft types can be hazardous.	
"Take That Wave-Off!"	21	Landing Checklist Complete?	50
By Lt. Dave Sandgren. No clearance to land? Wave it off!		By LSO School Class 1-87. Watching out for the unusual is everyone's responsibility.	
The Lecture I Never Got	22	The Dangers of a Turning Ship	51
By LCdr. Rick Cassera. "As I stepped off the elevator, it dropped out from under me like a rocket in reverse."		By Lt. Eric Engleman. Observations on the practice of turning the ship during SAR evolutions.	
Back to the Ship	23	Just Another Routine EMCON Alfa Launch	54
By Lt. Mark Darrah. After the turnaround period, it takes time to smooth out the worn edges for carrier duty.		By LCdr. John Noulis, Jr. The ship was no longer where it was supposed to be. The mission wasn't routine anymore.	
The AV-8B on the JFK	24	Fire! Fire!	56
By Peter Mersky. The AV-8B goes aboard the big deck.		By Lt. N.A. Trongale. Always a danger on the CV.	
Two Nuggets and One Pearl	26	Vote of Confidence	58
By Anonymous. Three out-of-the-ordinary CV-LSO incidents.		By Lt. Jeff Turner. An A-7E with a total fuel-transfer failure is shepherded home.	
Lost	27	Chain of Events	59
By Lt. Bruce Greer. Returning from a mission with only an hour's fuel left, the F-14 crew couldn't find their ship.		By Lt. Bob Muzey. A runaway A-7 on the flight deck.	
A Night on the "Fright" Deck	29	Assumptions	60
By Lt. Pat McDonnell. Many dangers exist on an active flight deck, particularly after sundown.		By Cdr. John Dinger. Don't assume yourself into a disaster.	
Things Don't Change	30	Partial Panel? No Sweat!	62
By Richard A. Bishop. A look at the flight deck during the Vietnam conflict.		By Lt. James D. Eberhart. Briefing emergency procedures is not enough; you need to practice them.	
		Hook Down?	63
		By Ltjg. Robert S. Martin. Never assume a checklist is complete.	
		Some Advice From an Old LSO	64
		By Lt. Charlie Hautau. Some of the lessons learned by an LSO retiring his paddles.	

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DEPARTMENTS

Bravo Zulu	40
Brownshoes on LSOs	IBC

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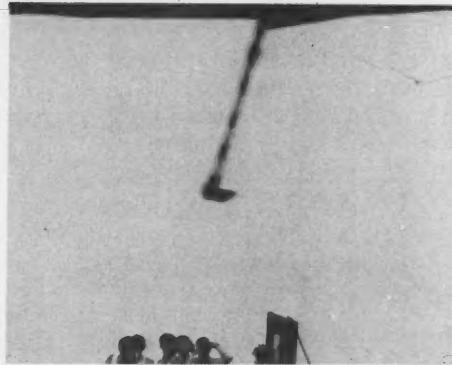
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PSYCH 101 For LSOs

By Lt. Kevin P. Miller

MAYBE it was something back in the training command about the LSOs that made me become one. Maybe it was the way they spent the extra time with us "coneheads," or the larger-than-life image they projected of men who could teach others to land airplanes on a ship and live to tell about it. One thing was certain: an encouraging word from them made your day.





Two cruises later, my LSO tour is winding down and I realize that being an LSO is more than being able to find Aircraft Recovery Bulletin 29 and recite roll angles from memory. I've become an amateur psychologist, confessor and coach. The "people" part of the LSO business doesn't get a lot of attention, but it is a big part of every LSO's function in every air wing. Consider the following areas where the LSO is a prime player.

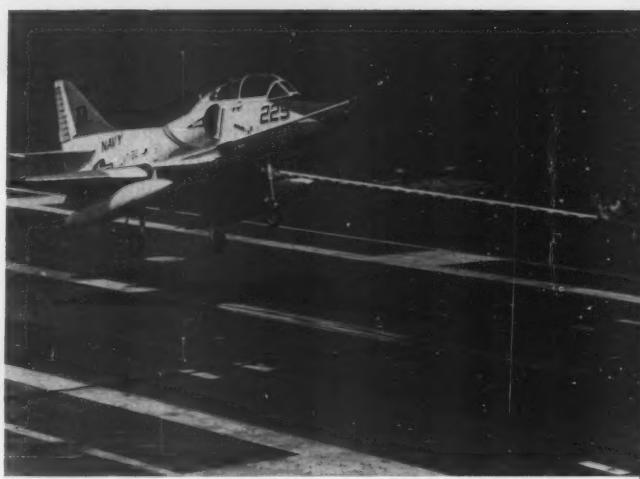
The Greenie Board. As soon as the passes go up, everyone gravitates over to study the Greenie Board. We look at it long and hard, almost memorize it, in total silence. It's practically a ready room shrine. As competitive as we are, the Greenie Board is only a natural way to compare our carrier landing skills with those of other aviators. It's also a good ops tool. But, that's as it should be. When it becomes a source of anxiety, the board should be taken down. The CO who says, "You guys better start putting OKs on that Greenie Board!" effectively calling fair and no-grade passes unacceptable, creates unneeded tension. The pilots will become more concerned with the grade than the comments, and a less than "perfect" grade gives the pilot a feeling of letting the squadron down and, of course, bringing "bad vis" to himself.

The grade is not important. Getting aboard safely on the first pass is. This is why LSOs need to keep their trend sheets updated and debrief their pilots at regular intervals. Trend analysis and the LSO's recommendations about how to correct problems will contribute to safe recoveries. Tailhook competitions are fun, but let's not lose perspective. After all, when you are old and gray, and your grandchildren ask about that centurion patch on your musty old flight jacket, they won't ask, "How many gashes did you get, Grandpa?"

The Pilot. From the squeaky-clean nugget to the gravel-voiced veteran commander, carrier aviators have healthy egos. They'd better! However, they are fragile, too.

"How could I fly anything less than a perfect pass? If there is a problem, it couldn't possibly be *me*. It was the wind, the sun, my wingman, the stupid DLC, a rock in my shoe. It was those dirty, rotten LSOs that gave me a no-grade!"

I know, grades are not important, but they do indicate trends and also contribute to the fun and challenge of the landing competition. The problems begin when a pilot's ego prevents him from learning from a pass. A struggling pilot has



to be counseled by his squadron LSO on ways to improve his performance. First, the pilot must take responsibility for his own performance. The standards are set. Then, the LSO must analyze the problem area and work out a plan to correct it. A pilot who rejects LSO critiques and advice, thereby placing responsibility for his failure on someone or something else, and then continues his substandard performance, will never improve. Frankly, he should not be flying from aircraft carriers. This is a decision for commanding officers and operations officers, not Paddles. Pilots need to take credit for their flying, good and bad, and not place the blame elsewhere. So you got a no-grade. Welcome to the human race. Learn from it, put it behind you and brief for your next hop.

The LSO. LSOs enjoy waving for different reasons. The sense of accomplishment after waving a difficult recovery and making a few "saves" is one of them. Personal pride in a job well done is another. These reasons and others offset the bad deals that also go along with the LSO job. But, one other subconscious element, buried deep in the LSO psyche, is power. By the nature of the job, the LSO has a tremendous amount of responsibility and authority for a junior officer.

Sometimes, LSOs take advantage of this power; the LSO is

The LSO that uses harsh criticism and biting sarcasm is asking for double in return and, more importantly, degrades the pilot-LSO relationship throughout the air wing. It is not a student-teacher relationship or an us-or-them struggle, but a one-on-one professional interaction among fellow pilots.

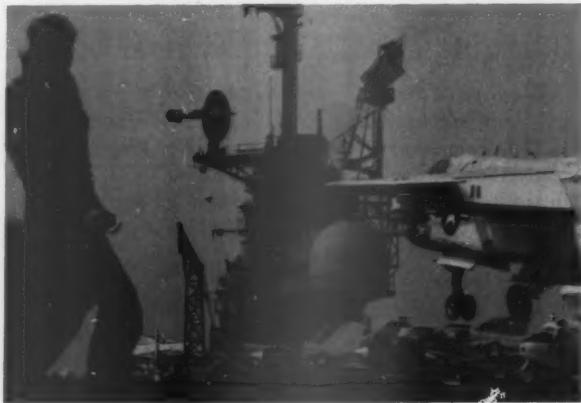
not infallible. We, too, must realize that we make mistakes, and admit the errors. Grading errors occur occasionally, but serious incidents or close calls should be a cause for reflection by the LSO on his professional shortcomings. He, too, must be responsible for his actions and learn from them. The price of failure is so high.

So, the LSO has this responsibility and authority. He loses everything when he barges into a ready room and sings out, "Who was that clown in 307?" and scowls at you like the time Dad caught you taking the car without his permission. A pilot does not need some JO to embarrass him in public just after he cheated death on a black, stormy night. The LSO that uses harsh criticism and biting sarcasm is asking for double in return and, more importantly, degrades the pilot-LSO relationship throughout the air wing. It is not a student-teacher relationship, or an us-or-them struggle, but a one-on-one professional interaction among fellow pilots. The pickle switch does not make the LSO into a god. Being an LSO is just a collateral duty that most of us volunteered for and were trained to perform. Respect is gained through skill and experience, not browbeating.

4 The Bolter Pattern. "Aw shoot! a night bolter. All that working for nothing. The guys in the ready room are getting a good laugh now — probably already have the bolt over my chair. Well, I won't go around *next* time."

Watch out! Get-aboard-itis is brewing in this pilot's soul. The ready room, air ops, Primary, all eyes are on him as he

makes his way around the pattern. The LSO, especially, needs to watch out because chances are, this pilot will make some move in close to ensure he gets aboard and prevents further damage to his ego. A breakdown of scan, spotting the deck, dropping the nose and chopping the power are all more likely now, and if, heaven forbid, he bolters again, get ready for some real color. A timely call as a trend develops is not only appreciated but warranted, and if the pass is out of parameters, just wave him off. This should not have to be said, but we are all guilty of taking guys we really shouldn't. Better a wave-off now than an a mishap later.



The Platform. We LSOs are no better than the air wing pilots when it comes to get-aboard-itis. Of course, we can get anyone aboard, anytime. Our healthy pilot egos sometime fog our judgment. Things can turn to worms quickly on the platform. The elements, aircraft malfunctions, a botched frequency switch, or a heated call from the boss can all lead to pressure. Throw a colorful pass at this mess and tensions are sky high. This is an area where the LSO must remain outwardly calm, even though he feels otherwise inside. He must project confidence not only to the pilots in the air, but to the other LSOs on the platform. A nervous voice, screaming into the handset, and harsh airborne debriefs create tension in everyone. If a guy is struggling, throw in more sugar calls. Calm, clear calls out of LSO NATOPS. Voice inflection can set the pace for the whole recovery.

The Debrief. It starts before the team visits the ready rooms. The grade book must be QA'd by the team leader and CAG LSO. If conditions were adverse, or one LSO saw something another did not, it needs to be discussed. Remember, the comments go in the grade book. It is important to get the right comments down to correctly analyze pilot trends. The grade goes on the Greenie Board. And, I'll admit it, sometimes the grades are wrong! However, the comments are usually in the right direction, and the arguments invariably arise over any pass other than an OK. After the pilot is debriefed on an OK, he usually says, "Yep, that's exactly what happened. Good eye, Paddles."

Many times, the flight is debriefing in the ready room. The LSO should not interrupt, but wait until they notice the white coats. They will stop the debrief soon enough. Go up to the pilot, look him in the eye, and debrief him professionally. Laughing and scratching during the debrief is not appropriate, although a light moment at the end is certainly welcome. Eye contact is preferred to mumbling while reading out of the book. Tell the pilot *why* he got the grade he did.

Know your business and don't throw out a lot of pablum. If

it was an ugly pass, take the pilot aside to avoid embarrassment in front of the others. There is no need for the SDO or ECMO 4 to see the book. Now, if the CO or Ops O need a debrief on one of their pilots, use discretion. But, even they have no need to see the air wing grade book.

When an argument arises and tempers flare, don't lose yours. Calmly and professionally reemphasize why the pass was graded as such, and if that does not get you anywhere, refer the pilot to the CAG LSO on the scene. Be firm, but do not antagonize the guy. Childish ready room shouting matches have no place among professionals. Turn the other cheek, but don't change the grade. Grades *can* be changed, but never on the spot, and only by the CAG LSO, if he sees fit. If a ruling does not go your way, that's just the breaks of naval air.

From time to time, a pilot will come to an LSO asking for advice. Drop what you are doing and help. Blowing him off guarantees a stone wall of resistance the next time you debrief a pass to him. It took a lot to motivate that fragile pilot ego to ask for help. Do not fail him. Telling a pilot he flies high starts is little help. Offer advice on how to hit the numbers and control power properly. Give him *your* standard survival techniques around the ship. Your pearl of wisdom may be the spark that turns on the light for him.

These little dramas are being played out in ready rooms on carriers all over the world. Carrier landings should be an exhilarating challenge of a pilot's aviation ability, not a source of confrontation and distrust. The LSO must possess not only technical expertise and operational experience, but also a certain degree of "bedside manner" to succeed.

Life at sea is tough, and any competition involving naval aviators is heated. But, that cannot be permitted to degrade the trust and teamwork of the pilot-LSO relationship. When that relationship breaks down, a mishap is only a matter of time.

Lt. Miller is a wing-qualified LSO for CVW-8, and is an A-7E pilot with VA-82.



Peter B. Mersky

The Total LSO

By LCDR. Chris Andersen

"LOOK, out on the platform, it's super hot, world-famous squadron LSO — capable of saving any approach in any weather with a single call (well, maybe two if it's a pitching deck). The envy and savior of all non-LSO aviators, this knight in shining armor stands as the last bastion of defense between these mere mortals and the feared ramp monster."

This view of the LSO is exaggerated, but very few of us would disagree that the LSO holds a special place in the air wing. Few aviators can say they haven't had at least one pass in which the LSO played the major role in getting them aboard. However, the mark of the total LSO is what happens after the aircraft are chocked and chained, and it's time for the debrief.

No matter what, you will have difficult passes to debrief, whether it's giving a fair to a pilot trying to make the top ten or a no-grade to a former LSO. Remember, your demeanor sets the stage, and if you walk into a ready room looking for a fight, you'll get one.

Here is a classic example:

It's one of those colorful nights during cyclic operations. There have been a couple of heart-stopping bolters; the aircraft left a spectacular trail of sparks down the landing area before dribbling off the end. There is tension in the air as one of the nugget F-14 pilots flies an eye-watering no-grade pass in which he finally catches up to the aircraft about the time the engines are winding down and the canopy is opening. It was a scary pass to watch, let alone wave. As the controlling LSO, you know that your strong calls were critical to his catching a wire and not ending up as message traffic for the whole fleet to read.

As you dismount the platform for the fifth time that day and head for the ready rooms to debrief, your mind keeps replaying his pass and the desperate corrections. You're still a little wound up when you enter the ill-fated pilot's ready room. During your stern debrief, he doesn't seem to be as scared by his pass as you think he should have been. This attitude, of course, elicits a loud counseling session from you. He responds with an equally loud defensive response. The exchange doesn't win any new fans nor impress anyone, except the RIO, who agrees with you and is still trying to steady his hand enough to fill out the yellow sheet.

This scenario is probably familiar. As an LSO, you need to ask yourself if the frustration and anger you displayed was justified. Was the ready room the proper place to carry on that kind of "counseling"? You were venting the frustration of the entire recovery on one guy. His response might have been different had he not been in front of all his squadronmates. On the platform the goal is safe and expeditious recovery of aircraft, but in the ready room it is to communicate effectively with the pilot concerning his performance on the ball. When the performance has been colorful, the LSO has to help the pilot come up with constructive ideas on how to avoid a repeat performance. The important thing to remember is to not let your emotions get in the way of debriefing the pilot. No pilot purposely flies a bad pass just to jerk your chain or turn your hair gray. He's going to get a colorful mark on the squadron greenie board for him to remember the pass by and for all to see. The LSO has to use the debrief to be more than a grade assignment session. Make it constructive and try to keep emotions and ego out of it.

One of the best reasons to keep your own ego out of a LSO debrief is that often the pilot you're debriefing will have plenty

for both of you. Consider a first-cruise pilot who has less than 20 night traps and who just flew a bolter, then earned a get aboard no-grade; his debrief is entirely different from one with a CO who has just flown a no-grade 1 wire.

The nugget's concern over his passes was highest when he landed, but by the time he got to the ready room, he was equally concerned with the perceptions of his squadronmates. He doesn't want to relive the passes, which he is starting to rationalize as "not that bad," in front of people in the ready room. This time is crucial in his development as a tailhook pilot; handled properly, the debrief will become a building block in his career, not a crack. His self-esteem may be an obstacle to a worthwhile debrief especially if your demeanor isn't right. Maybe the ready room and its audience is not the place.

On the other hand, the squadron CO who flies a taxi 1 wire usually knows better than you how his pass deteriorated. He won't be that concerned with a public debrief and will feel disappointed in himself, but able to put it into perspective (of course, there have been exceptions). As the cruise goes by, you'll learn the personalities and how they react to adverse debriefs. The LSO needs to have a game plan to deal with both the inexperienced and experienced ball fliers everything in between.

No matter what, you will have difficult passes to debrief, whether it's giving a fair to a pilot trying to make the top ten or a no grade to a former LSO. Remember, your demeanor sets the stage, and if you walk into a ready room looking for a fight, you'll get one. If a squadron is consistently more spirited in its debriefings, don't compromise yourself and lose your calm, professional manner. If you do, it can easily develop into a chronic adversarial relationship with the ready room spoiling for a fight and second guessing your grading every time you show up. Keep your ego out of it; if the ready room can't do the same, work through the CAG LSO to inform the squadron CO.

The LSO plays an important leadership role. Be a motivator and believe you can make a difference, not as an obnoxious cheerleader, but knowing the pilots well enough to stroke them for their successes. Your position in the squadron is unique and has been since the earliest days of carrier aviation. Few make it to the arena of carrier aviation and fewer still "pick up the paddles." Don't just settle for waving aircraft aboard. ►

LCDR Andersen is the CAG LSO for CVW-3 deployed in USS *Kennedy* (CV-67). He flew F-14s with the VF-102 Diamondbacks and served a tour as an LSO with VF-101.

Proficiency Demands Practice

By Lt. Jim Galanis



After 2½ years in an operational tour, I feel like I've built up a margin of safety. I've survived all the dumb things that have put many good airplanes and people into the ground and water. So, while on cruise, when the opportunity arose for a two-week TAD to Clark AFB, I jumped at the chance. Besides, Air Force BOQs are always the best; per diem versus living on the ship made the decision even easier. The school was excellent and the liaison with the Air Force mission commanders (strike leaders) proved beneficial for both sides. The two weeks sped by and I was on my way to rejoin my squadron as the ship pulled into NAS Cubi.

Since I had not flown for over two weeks, I needed an easy-does-it warm-

up hop: a low-level around the islands and heaving a few Mk. 76s at the offshore target rocks, watching out for bonca boats. It sure felt good to fly an airplane again. You can only brief and debrief strikes for lessons learned so much without becoming insanely jealous of the good flying others are enjoying.

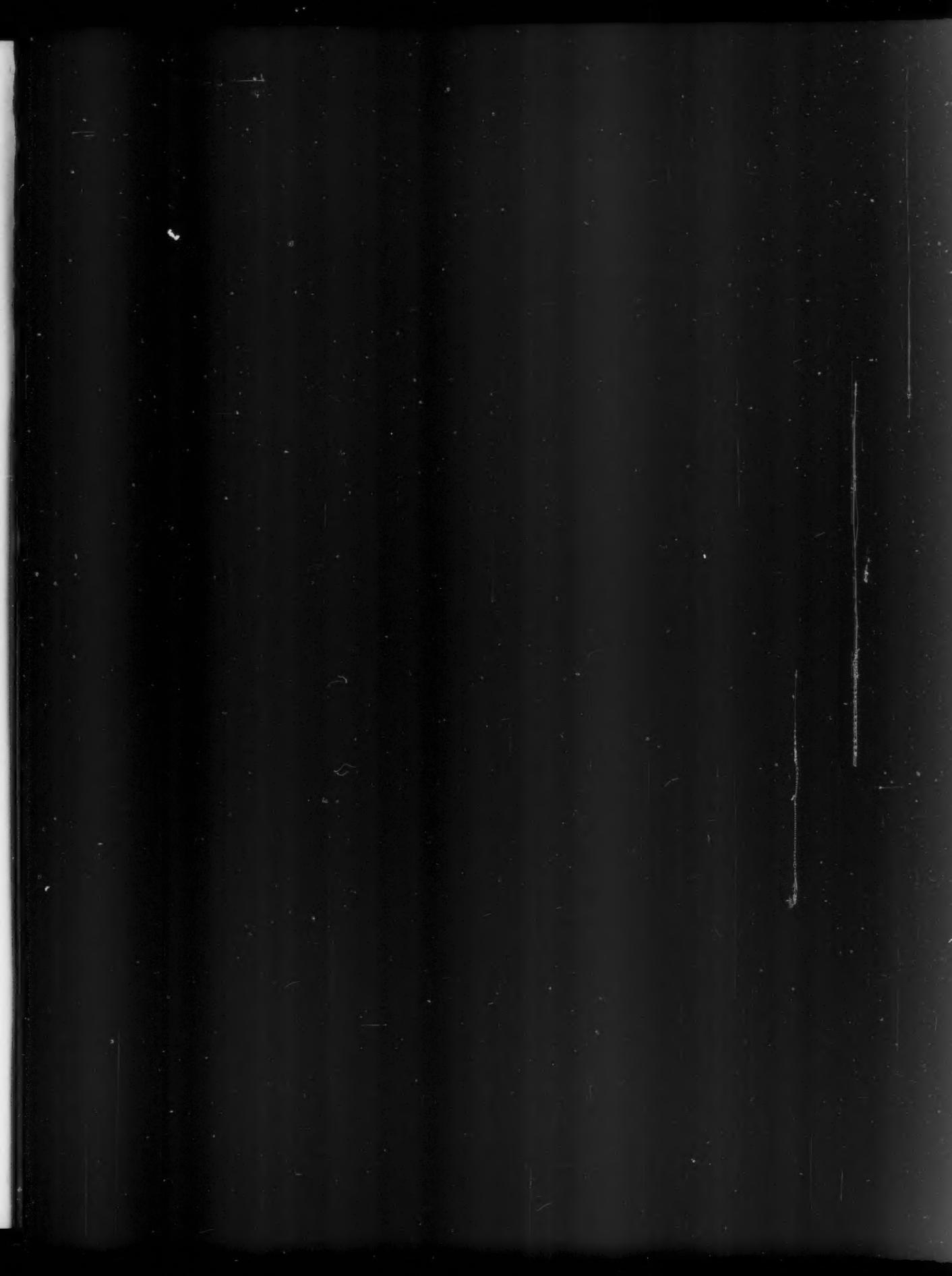
After a Sunday off to prowl through the Far East Trader, I had another flight as Dash 3 on a Cope Thunder strike. Both flights went as briefed, but there is one critical difference between flying tactical airplanes off the ship and from shore. I only had had a couple of practice landings on that first flight because of my fuel state, and the number of planes coming back on the second hop demanded a full stop on the first pass.

The fly-aboard was two days later. The Ops O had arranged for me to bag a couple of traps to catch me up with the rest of the folks who averaged eight flights during the time I was on the beach. It suddenly hit me in low holding: It's been a while since I've done this. Three years of carrier landing proficiency is a very fragile thing that can slip away in three weeks. Like a swimmer who has been out of the water, I floundered on my first look at the deck. Of course, the ship was expecting proficient carrier aviators on the fly-on, so the TACAN was off, even though the weather was marginal Case I.

I thought, "Gee, Paddles, why are you flashing those red lights at me?" as I thundered up the angle in military after being waved off on my first pass. No problem. My lack of recent traps and no FCLP was showing. After two "no-grades" and a "fair," I finally finished up with an "OK," a greatly humbled pilot.

Practice, that's what I needed. Field carrier landings aren't quite the same as landing on the back of the ship, but they're the next best thing. In retrospect, I could have used a half-dozen passes under our squadron LSO's control. I had been gone too long to be proficient. Being at sea again brings little to be thankful for, other than being good at what makes carrier pilots unique: landing aboard the ship.

Lt. Galanis is an A-7E pilot with VA-27.



Nuggets Don't Float

By Ltjg. Paul Dragos

DO you remember the feeling you had in the pit of your stomach when you asked a girl to the seventh grade dance for your first date? It was that kind of feeling I had walking up to the quarter-deck of USS *Carrier* for my first sea det — excited, anxious and a little scared. I used the oldest tradition in the Navy: Follow somebody who knows what they're doing.

"OK, Chuck, now let me get this straight, face the stern, salute, face the OOD and say . . . what it is? Chuck, slow down, we're almost there!" Why didn't I listen better at AOCS?

"Don't worry about it," Chuck says with a reassuring grin. Sure, easy for him to say, he has been at sea nearly two weeks! Salty old dog. OK. I made it past the guard, the watch, the OOD and I'm on board! Whew, I hope I didn't screw up, I hope they didn't notice how green I was. Wow! Chuck, we took a wrong turn; what are we doing in this warehouse? Welcome to the Hangar Deck." My veteran tour guide says, "To get to our stateroom is really easy, just get to 03-126-3L." To get there, walk up from 02-120-M6, over to 02 A.C.E from B-1C Delta, Yankee . . . Pi R squared . . . AAAGH! At that point I came up with the idea to tie a string to myself and the stateroom door so I could always find my way back. Or maybe bread crumbs.



The first day went pretty well. After I built up my courage a little, I would venture out, eventually finding the mess, ship's store and even the gym. I always found my way back; it may have taken six or seven hours, but I always made it! The trick I learned was to look like you knew where you were going, even if you passed the same spot 27 times.

The first flight is always a memorable experience. The only thing I can relate it to is a record player. Everything happening around you is going at 45, and you're somewhere around 33 1/3. Trying to be a good copilot, I brought out the NATOPS checklist. "Chocks and tie-downs removed," I said, trying to sound as official as possible. "Lights set."

"Paul."

"Tail wheel locking handle locked."

"Paul."

"Overspeeds on."

"Paul!" my HAC screamed. "Don't read the checklist over the radio; the Air Boss doesn't want to hear it!"

"Oh . . ."

Feeling extremely stupid, I continued noticing that things happened very fast on deck. The HAC was about 14 items ahead of me on the checklist. When I called out, "Pre-takeoff checklist," we were in Starboard Delta. Well, it is supposed to be a learning experience.

Everything went smoothly that first week at sea. I learned how to get around, fly rescue patterns and even land aboard ship. Off reports, brevity codes, pireps, I've still got a long way to go; but at least now I know it can be done. Getting a handle on this shipboard stuff is what these small dets are all about — a confidence builder. Of course, I would have been lost without salty old Chuck, and to him a thousand thanks; but next time it will be me with the reassuring grin saying, "Don't worry about it."

Ltjg. Dragos is a pilot with HS-4 at NAS North Island, Calif.

Think It Out... Before It Happens

10

By LCDR. Tony Kiggins

THERE I was, completing transition to the Navy's latest and the world's best tactical airplane, the F/A-18 Hornet. For the previous several months, I had been passing on the skills I had acquired in five years of flying the F-14 Tomcat to new fighter pilots and radar intercept officers. Now, after learning some new tricks, I was ready to join the fleet again and begin building up for the first operational deployment of the F/A-18. There was one last hurdle — carrierquals. After completing a RAG LSO tour in Tomcats, I had a great desire to do well at the board in front of all my new squadron mates.

Walking aboard the West Coast CVN, I immediately felt at home since I had spent a little time on board during my first tour. I'd watched several days of F/A-18 flight operations, and I knew, when the Hornet joined the fleet, it would be the finest carrier-landing airplane ever seen. It possessed all the traits a pilot could ask for: good visibility, great roll control (quite a change from Tomcats), and last but not least, outstanding engine response.

I approached night work with the same caution I've always had, especially since it had been about a year and a half since my last night trap. The first two cat shots and traps were uneventful although I wondered if I would make the remaining requirements without having to get a new bottle of LOX as I'd already soaked half of the supply. I pondered the ship's decision to refuel me (my state was 1,000 pounds above hold down) while parked on the foul line, which is not my favorite spot to be parked while recovering airplanes, especially during RAG CQ. I recalled my previous pass. How did I turn that little-high-in-close into a downward-ball-movement so fast. That had never happened to me before. Back to basics — the Hornet is a great carrier airplane, but not a magic one.

At that point I began thinking about other things. I'd never experienced an emergency requiring an immediate action response. I ran through problems that could occur on the cat shot and the increased dangers of ejecting right off the pointy end with the carrier making 25 knots of its own wind. I recalled how lax the Tomcat community was even after the airplane demonstrated its unforgivingness to the single-engine, slow-speed engine. There had been new procedures developed, but, unfortunately, they were written in blood. Although I'd never experienced a major engine problem in the Tomcat, I always felt prepared, and I wasn't going to stop being prepared even though the Hornet had demonstrated the most reliable engines ever. Sure enough, it happened.

Lights on, cat officer touched the deck. The stroke began —bang, bang, and a bright white flash. Immediately the tower transmitted that I'd FODed my right engine and was on fire. My first thought was to not grab the stick. Doing so on the cat shot in the Hornet could make for an interesting ride as pilot-induced oscillations (PIO) are easily caused at the moment of flight. I told myself to keep both throttles at MIL power and to fly the airplane. The visibility was good, but it was a pitch black night with no horizon. Attitude, attitude. After several more calls from the tower that I was on fire, I began looking for secondary indications. The only indication was a little yaw to the right.

Now at 1,000 feet I fed in left rudder and pulled the right engine to idle and waited to ensure that the left engine was running properly. A glance back to the HUD showed that my climb had come to a halt, so I fed in a little more rudder, went into afterburner on the left engine and pulled the nose back up. Then I secured the right engine using in-flight fire procedures while turning toward the primary divert.

The post-start setup of the inertial navigation system (INS) for the primary divert worked like a champ. The tower made another call that I was still on fire and said something about afterburner, so I decided to come out of burner and see if that would stop their calls about being on fire. With the nose at a comfortable attitude for single engine in afterburner, but too



high an attitude for single engine without afterburner, the airspeed bled off rapidly. Looking at 125 knots and 1,900 feet, I reselected full afterburner but didn't feed in enough left rudder, and the airplane developed a large right yaw. The thought that I might lose control passed through my mind as I lowered the nose a little and came back to midrange afterburner.

As I turned towards the prebriefed nearest NAF divert, I switched to their tower. Five tries, no answer. The next closest divert, NAS Mainland, was about 30 miles further away, and I didn't want to go that extra 30 miles. I could see the NAF's beacon but no runway lights. Instead of taking a chance on having no assistance or no runway lights upon arrival at the NAF, I accepted the CV's recommendation and proceeded to NAS Mainland. I covered the emergency checklist en route and made a straight-in field-arrested landing.

Postflight revealed that, indeed, the right engine had destroyed itself, that the fueling door was unlatched and the fueling receptacle cap missing. Later investigation revealed the fuel-cap securing chain was broken, so the loose cap was set on top of the open fuel-access door and never replaced by fueling personnel. The loose fuel cap made it through all the final checks, missed being recorded on the low-light camera by an inch or two and was immediately ingested by the right engine at the beginning of the cat stroke.

Overall, I attributed my success to having thought out this emergency prior to it happening. Although victim of the increasing pucker factor when frantic calls came from the tower that I was on fire, I stepped through all the procedures in a controlled and proper order. I gave myself an OK. Of course, I was very familiar with the procedures and with the divert fields, and it was a clear night. What if...

LCdr. Kiggins flew F-14s with VF-114 and VF-124. After deploying with VFA-25 in the first F/A-18 air wing (CVW-14) in USS *Constellation* (CV-64), he is now assigned to VFA-125 as an instructor pilot.

The Rooster Tail vs. The Burble

By LCDR. Don Bringle

1. Natural winds — down the angle
2. Trough occurs
3. Lifting occurs

Rooster Tail

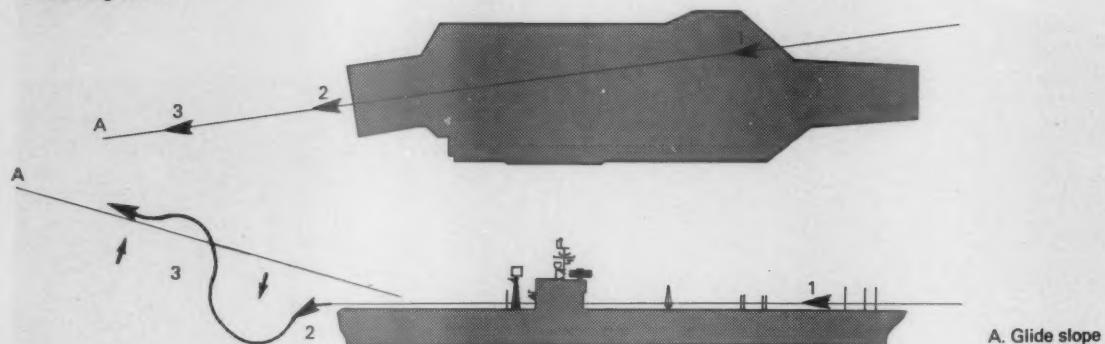


Figure 1.

THE "rooster tail" is a phenomenon that concerns the carrier aviator when the LSO calls "Winds down the angle at 25 knots." If you take advantage of such perfect wind conditions, you should be able to groove an OK every time. The rooster tail trough is caused by the natural wind moving across the flight deck, seeking lower pressure and filling the void created aft of the ship. (Figure 1)

12

The trough is accentuated when natural winds are stronger. In addition to the trough, a lifting effect can occur, due to divergence of the affected air mass aft of the ship. Thus, an aircraft can experience a slight shifting sensation in the middle to the in-close positions, followed by the tendency to settle in the trough. The higher the natural winds, the more pronounced the effects.

How do you fly the ball? You can't anticipate the rooster tail effect, but you can be prepared for the corrections you will have to make. If it's zip-lip recovery, note the previous

recovery's winds as you brief. A rooster tail is often confused with the burble. You will experience one or the other every time you trap.

How many times has a tailhooker overcontrolled that slight settle-in-close to a wave-off, or bolstered because he was not anticipating the burble? Unlike the rooster tail effect, the burble is caused by *the disturbance of airflow as the ship generates its own recovery winds*. Unlike the natural winds that can be positioned directly down the angle, axial winds are parallel to the ship's course and can wreak havoc on the aircraft in the groove. With axial winds, any rooster tail effect is primarily offset to the left of glidepath and is consequently a negligible factor. The burble, on the other hand, is a disturbed mass of air that the aircraft must transit; it destroys the predictably smooth airflow across the wings and control surfaces. (Figure 2)

When the ship goes faster, the burble is intensified and can

1. Axial winds — down the deck
2. Trough occurs

Burble

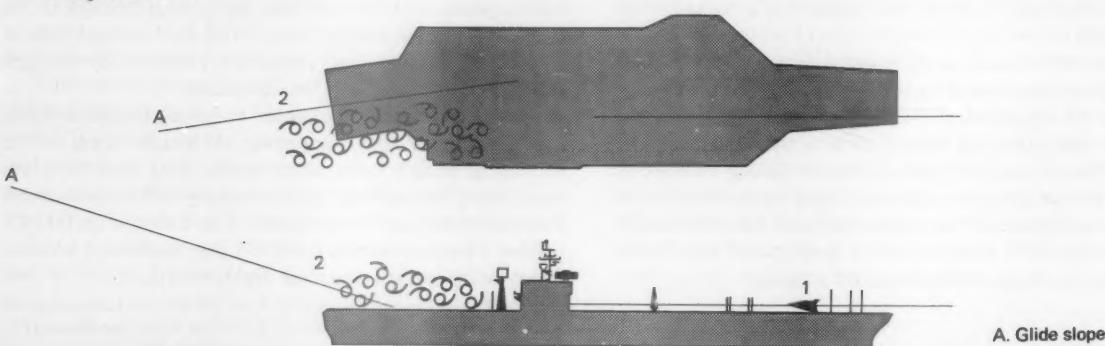


Figure 2.

Mike



Mike Silva

reach farther into the groove. Again, it is difficult to anticipate the burble. When the LSO calls "Axial winds at 33 knots," you know you have your work cut out for you. You will have to make positive and aggressive corrections to avoid a large settle or to avoid allowing the aircraft to get too cocked-up and slow.

Some auto-throttles may not be able to react quickly enough, so you might consider breaking out somewhere in the groove, outside the in-close or in-the-middle positions. With either the rooster tail or burble, if you are a steady one or two balls high, these phenomena may never affect you to the degree they would influence a low or slow aircraft. The burble with high winds is a problem for LSOs and pilots alike. Just be cognizant of what awaits you and be prepared to make those aggressive, positive decisions. If you overcontrol the

burble or rooster tail trough, a bolter is *always better* than a hook slap or ramp strike.

With an understanding of the burble and rooster tail effects, it's clear why you need to be prepared for a significant settle-at-the-ramp if you make a large line-up correction. Especially in the F-14, with marginal engine response, a large wing-dip will bring the Turkey to its knees for that familiar Taxi-One. As with any correction, in-close to at-the-ramp, be prepared to adjust the nose attitude. Then adjust the power with a positive correction to arrest sink rate. The line-up correction, called by the LSO, is mandatory. Don't let the glideslope and airspeed considerations fall prey completely to your immediate line-up response.

"Fly the ball to touchdown." Advice such as this classic phrase is complimented by another: "Don't spot the deck."

The LSO wants to maintain an uplifting and positive attitude. "Fly the ball to touchdown" is now preferred to trigger a response in the pilot's mind to keep his attention focused, for the last two or three seconds — an eternity on those darkest of nights as the ball finally reappears on top of the lens! — prior to touchdown, on the ball and datums.

In the F-14 (as shown in the photo), your line-of-sight stereoscopic vision is disrupted by the vertical metal bar. First your right eye, then both eyes, then the left eye alone, lose sight of the ball. It's difficult to fly the ball to touchdown if you lose depth perception (stereo vision) or the ball altogether. Even though the ball is in a different relative position at landing, on the boat versus FCLP, practice consciously moving your head to the right as the ball moves behind the bar. Then quickly move it to the left to reacquire the ball and minimize the time the ball is hidden from sight. Once this habit pattern is established, it will do two things. It will minimize monoscopic vision, and it will keep your eyes off the deck. Practice during FCLP will make the motion routine.

"You did what?"

"I asked for touch-and-goes."

Night touch-and-goes are not in most air wing's CQ routine. Nothing can replace "ball time." Time spent flying the ball, at night with clear skies and a 50-mile bingo to Miramar on a Wednesday, would make a young man think twice about night touch-and-goes. Yet, the learning curve is normally so steep that when you are "lucky" enough to bag six night traps in two days in the RAG, there's no reason the curve could not occasionally be repeated in air wing CQ evolutions. (I can hear the laughter now.) The time spent doing so, off the California coast, may reap huge benefits in

blue water ops from Hawaii to the Indian Ocean.

Auto-throttles are worth their weight in gold. When they are holding you on-glide slope and on-centerline, with a donut and fast-chevron, life couldn't be better. Some RAGs ensure students are fully trained by not encouraging, or even allowing, auto-throttles. In nearly every sense, this practice provides the best aviators to the fleet. On the other side of the coin, the replacement nugget is probably not in the least bit comfortable with auto-throttles. The first time he flies in non-RAG CQ-type weather, his lack of confidence and expertise with auto-throttles won't help him.

Nuggets must be encouraged to practice and fly with auto-throttles, day and night. Auto-throttles can reduce effective pilot workload by 33 percent. With reasonable axial winds (less than 30 knots) auto-throttles can fly you to touchdown. If you have not flown a decent pass to begin with, they will not correct for large glideslope or line-up deviations in close. Practice in breaking-out techniques must be accomplished in FCLP. Ignoring auto-throttles is turning your back on a substantial aid designed to assist, especially on those dark nights.

Experience is always the best instructor. The desire to improve is the most single common trait among all exceptional ball flyers. It is more than that. It is seeking perfection, always correcting even the most minor deviations. To some, the art comes easily. To others, the art is just a bit out of their grasp.

The author gratefully acknowledges help from the following master LSOs: Cdr. "Bean" Barrett, Cdr. "Killa" Kilkenny, Cdr. Phil Howard, Cdr. "Jimmy Mac" McArthur, Cdr. "Bug" Roach, Cdr. "JR" Goddard, LCdr. Pat Madison, LCdr. "Grits" Gratas, and Lt. Wayne Olson. Thanks also to YN3 Stowers for his assistance.

LCdr. Bringle is an F-14 pilot with VF-114. He is the squadron operations officer. He was a wing-qualified LSO with VF-211, making three cruises.

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Old Trackers Never Die

By Lt. Eduardo Raul Gauna
Argentine Navy



IT was a sunny, but extremely windy day. We were starting a new deployment aboard the carrier *25 de Mayo*. The sea, affected by the wind, was making our mission a little more difficult in our old S-2E Tracker. I was the copilot for a junior officer who was making his first 10 carrier landings. So far, he was accomplishing this task with good results.

After the fourth trap, we again moved up to the catapult. As copilot, I set the flaps at two-thirds, trim at 0, 0 and 2 right. We completed a normal engine run-up, and all the indications were normal. The wind was constant, coming from 310 degrees at 30 knots. While the deck crew prepared the aircraft for the cat, we made our final checks. Everything was set.

The cat officer directed us to configure the aircraft for the preflight: flaps,

harnesses, headrests, hatch and brakes checked. Then we set the power. The S-2 shook with 56.5 inches of manifold pressure and 2,800 rpm. We saluted and once again, felt the kick of the catapult. 2-AS-22 was airborne. This time, however, something was different: a fire warning light for the port engine. We responded immediately with emergency procedures: reduce throttle and cut the engine. If the light does not extinguish — and it didn't — secure the engine and feather the prop. At 300 feet, we set cruise control. The tower gave us a new course for our bingo to the divert field, the Aero-Naval Base Comandante Espora. We took up a heading of 310 to the field that was 105 nm away.

We managed a slow climb to 1,500 feet while another S-2 joined us. This gave us some peace of mind. When you're used to two engines, you hate to

go such a long distance with no company. Our speed varied between 95 and 105 knots. The wind, according to our VLF, indicated 40 knots of head wind. Our tactical computer gave us the heading and distance to Espora.

The other S-2 accompanied us, for an hour and a quarter, to the feet dry point and then returned to the ship. We landed shortly afterward, and after a normal rollout, secured the remaining engine after discovering that the S-2 cannot taxi on one engine. It can do ground loops, but not taxi.

Checking the engine, we discovered that some of the exhaust stacks were loose. The damaged stacks were quickly replaced, and the aircraft was once again ready for flight. After coordinating our recovery time with the ship, we launched and completed our mission without further incident.

Lt. Gauna is an S-2E Tracker pilot with the Argentine Navy. A special thanks to Patricia Crabbe for her assistance in translating the original article from Spanish.



“Rig the MOVLAS, Station 3.”

By LCDR. Phil Grandfield

approach/october 1988

“RIG the MOVLAS, station 3!” That is one of the calls I had heard at LSO school. I had even seen it set up during flight deck drills, but I hoped I would never hear it on the 5MC while I was on the LSO platform.

Station 1 MOVLAS is at the fresnel lens with the light box placed directly in front of the source lights. Station 2 MOVLAS uses the portable equipment aft of the fresnel lens on the port side. Station 3 uses the same equipment just aft of the island on the *starboard* side. Halfway through my CAG LSO tour, the ship suffered a fire near the lens room; and the heat damage put the fresnel lens, station 1 and station 2 MOVLAS out of commission for two

days of flying. Although I had never waved using station 3, I had to become proficient quickly.

I was already familiar with some of the limitations of station 3 MOVLAS compared to the fresnel lens because it uses the same equipment as station 2. It has two cut lights (one on each side of the source light box), instead of a bank of four lights across the top of the lens. It has four wave-off lights on each side, instead of seven on the lens. It has five datum lights on each side, instead of seven on the lens. All of these lights are smaller than the lights on the lens. Only the pickle switch connected to the MOVLAS controller can operate the wave-off lights.

The most significant aspect of station 3 is its starboard location and the effect it has on the pilot's meatball acquisition and altered scan pattern. This usually causes lineup deviations and an uncomfortable feeling due to the scan change.

With some trepidation disguised as confidence, I put my best foot forward to show my fledgling LSO trainees how it was done, hoping not to swallow my foot. With the CAG LSOs on the MOVLAS controller and qualified team leaders backing up, we caught two days

of normal recoveries without incident. Not even a scary pass; however, both the LSOs and pilots learned a lot about station 3 MOVLAS.

First, you can't assume everyone knows where station 3 MOVLAS is. Although you thoroughly briefed MOVLAS to your ready room, someone in marshal for the upcoming recovery had been asleep or on leave during the brief. Every tail-hook aviator knows the starboard side is not the normal place to put the lens. Make a 99 "Starboard MOVLAS" call.

Meatball acquisition from a Case I pattern is not difficult, as long as the general location is understood. In fact, some pilots *prefer* station 3 for acquisition because it is not blocked by aircraft on elevator 4 and easier to see from the 45-degree position.

Hawking lineup by the back-up LSO becomes more critical, but the incidence of off-center hits is about the same as with a port side lens. The PLAT is a great aid for the back-up LSO, but ours was down. Most back-up LSOs preferred to stand to the left of the controlling LSO, closer to the landing area, to get a better look at lineup.

Do not use zip-lip procedures. A ball

call is necessary to ensure the pilot has located the station 3 MOVLAS.

The one pickle switch that activates the wave-off lights should be attached to the MOVLAS controller handle to be used by the controlling LSO, just as with station 2 MOVLAS. (Although the second pickle serves no purpose, back-up LSOs felt uncomfortable waving without holding it anyway.)

Adapting to station 3 MOVLAS was more difficult for aircraft with juxtaposed seating (S-3A, A-6E, E-2C, etc.) because the pilot had to scan across the cockpit to see the ball.

Station 3 MOVLAS was not the heart-stopping evolution I had expected, but it does need to be practiced. *None* of the air wing pilots or LSOs I polled later had ever seen it before! LSOs need to wave station 3 MOVLAS long before they become CAG LSOs, and every pilot should fly it in a benign environment before he needs it for real. By the way, West Coast air wings can expect to demonstrate their station 3 MOVLAS proficiency during their Advanced Training Assessment (ATA). The next time you hear "Rig the MOVLAS, station 3!" on the 5MC or UHF, it can be as routine as any carrier landing. ▀

LCdr. Grandfield, F-14 pilot and prior CVW-11 LSO, is currently the COMNAVAIRPAC Force LSO.

Bolter! Bolter!

By U.S. Navy LSO School Class 8-86

"BOLTER! Bolter!" calls the weary LSO. It's the nugget's third time around. High start, not enough straightaway and overpowered all the way, every time. Does he realize it's a downwind recovery? Probably not. Is his pattern AFU because he doesn't know how to alter it when working with abnormal winds? Probably.

18

An aircraft carrier's commanding officer normally seeks favorable winds for recoveries; however, considerations such as weather, the ship's path of intended movement (PIM), or tactical concerns may result in other than normal winds in the pattern or over the angled deck. Normal recoveries are those with winds more or less down the angle at 22 to 27 knots. Other than normal recoveries are of two general types: high-wind and downwind. Squadron LSOs must ensure that all squadron aviators are properly briefed and able to recover the first time in these conditions. First tour pilots should receive extra LSO attention, as they have probably had normal winds each time they've seen the boat.

Downwind recoveries may be the most difficult for aviators to master. In addition to the expected wind over the



bow, there is a stern wind component. For example, a carrier making 35 knots with a 10-knot tailwind will yield an effective wind of 25 knots in the groove. This is similar to a carrier making 25 knots with calm, natural winds. The 10-knot downwind component is significant only in the pattern. An extension of approximately three to five seconds past the normal turn point will be required to achieve 15 to 18 seconds in the groove.

High-wind recoveries require an equal amount of attention. Winds over 30 knots require a turn prior to the abeam position to achieve the correct groove length. If the distance abeam is wider than optimum, the turn must be made even earlier. It should be noted that during the turn off the abeam position, the pilot will feel very close to the ship,

but will have a proper groove length due to the wind. Also, the bubble during high-wind recoveries is very strong and very close to the ship, and should be anticipated in-close and at the ramp.

Well, Paddles, here are a few things to remember with your new guy. He just got out of the FRS and has probably had, at most, 30 passes. He hasn't seen many out-of-the-ordinary recoveries. Start working with him right away. Explain that wind calls probably won't be given during Case I recoveries, and that the waves, smoke, ship's wake and pennants all offer good cues for determining winds. A few minutes in the ready room explaining these things today will prevent tomorrow's embarrassing, unsafe situation. ▶

Turn Point Required for Nominal 17.5 Sec Groove

Abeam Distance (NM)	Normal Recovery		Downwind Recovery		High Wind Recovery	
	Turn Point Past Abeam	Past TACAN Past Ramp	Past Normal Turn Point	TACAN Ramp	Before Normal Turn Point	TACAN
1.0	1586 Ft = 5.7 Sec	17° 12.3°	+3.2 Sec	24.2° 20.2°	1712 Ft = 5.6 Sec	1.4° End of Angle
1.25	1145 Ft = 4.1 Sec	10.5° 6.9°	+4.0 Sec	18.4° 15.0°	2050 Ft = 6.7 Sec	4.8° Before Abeam Bow
1.50	724 Ft = 2.6 Sec	6.2° 3.1°	+4.8 Sec	14.4° 11.4°	2376 Ft = 7.7 Sec	8.6° Before 1/2 Ship length Before Bow

Who Are All These People on the Platform?

By U.S. Navy
LSO School Class 8-86

CCA Controller: "501, slightly above the glideslope, on course, three-quarters of a mile, call the ball."

501: "501, Intruder, ball, 5.2."

Controlling LSO: "Roger ball, Intruder, you're working high."

Controlling LSO: "Little power, right for line-up."

501: (After trap, to himself): "Whew! glad to be on deck. I sure had to work my tail off tonight, and probably for an OK."

THIS scenario is familiar to a carrier aviator. There is, however, a vast amount of communication taking place throughout this scenario an aviator never hears. A large portion occurs in the crowd huddled on that small platform on the port side of the ship. They are LSOs, guys who grade the quality of landings, right? Well, believe it or not, that is only a very small portion of their duties. They are part of the Landing Safety Team.

The Landing Safety Team is usually six people, each with a specific task. The team is directed by the leader, an experienced LSO, responsible for the general

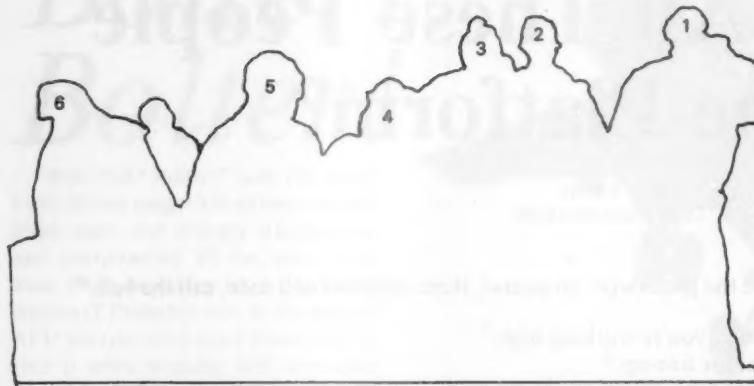
conduct of the LSO team on the platform. He coordinates training of less experienced LSOs, and acts as a quality assurance factor in grading landings. The leader briefs the entire team prior to recovery on the conduct of the recovery, problems noted or adverse conditions that could be encountered. His experience and expertise ensure that the LSO team is ready for any contingency.

The controlling LSO is the person normally heard on the radio. He is responsible for the aircraft from the 180-degree position to touchdown. He evaluates the approach and dictates grades and comments to the book writer.

The controlling LSO should be told about anything that affects his area of responsibility, which is the safety of the aircraft under his control, and the deck.

The back-up LSO is the "safety valve" for the controlling LSO, and acts as a mirror image while monitoring conditions that the controlling LSO can't. The back-up LSO also has a handset and a "pickle," not for second-guessing the controlling LSO, but to initiate calls and signals when the situation warrants, and to assist the controlling LSO. The platform can become so busy that the back-up LSO is required to ensure that the controlling LSO does not become





1. Controlling LSO 3. Back-up LSO 5. Hook Spotter
 2. Team Leader 4. Book Writer 6. Phone Talker

overloaded to the point of jeopardizing the safety of the recovery. The back-up LSO can handle problems while the controlling LSO concentrates on the aircraft "on the ball." It is not unusual for the team leader to act as back-up LSO.

The book writer actually records the pass, and is usually an LSO in training. A good, working knowledge of LSO shorthand, ability to write legibly, and a

good memory are essential to doing this job well. He also notes aircraft side numbers and the arresting wire. Aside from these duties, he double-checks deck status and other conditions affecting the approach and landing of aircraft. If other LSOs on the platform are busy, he monitors the landing pattern. A book writer also gains valuable knowledge on proper waving techniques.

The phone talker and hook spotter

are two enlisted men assigned from V-2 division to work on the LSO platform during all recoveries. They are also charged with setting up and securing the platform and coordinating maintenance on all platform equipment.

The phone talker maintains communications with pri-fly and the arresting gear stations during recoveries. He advises the controlling LSO prior to each pass on gear status and lens setting. When the deck is clear, he informs the controlling LSO and continues to monitor the deck status to ensure an aircraft doesn't land on a deck that goes foul late in an approach.

The hook spotter visually confirms the configuration of each aircraft. He uses binoculars to sight landing gear, flaps, speedbrakes, and hook, and notes any abnormalities about the aircraft. Ready at hand, he has any emergency equipment—very pistol, flares, spotlight, etc.—that might be needed to assist the LSOs in aircraft control.

The Landing Safety Team works long and hard behind the scene to make sure the entire air wing comes aboard as safely as possible. They do much more than grade a pass. Pay the Landing Safety Team a visit out on the platform and see how they do business. ▶

It Ain't Over Til It's Over

By Lt. Dave Sandgren

It had to have been the most boring hop in my entire seven years in naval aviation. I launched on a "pinky." The sunset off the west coast of Africa was more than impressive. Once the last of the orange glow had disappeared below the horizon, however, it was just plain dark. As the last night tanker, my job would consist of two hours in a left-hand circle at 10,000 feet devoid of sights and sounds. The dark silence was to be interrupted only by an occasional "514, update, state and give." Finally, relief came. "514, dump charlie. Say estimated time of delay."

"About 10 mikes," I replied. Later, I made my call. "514, Intruder ball, 6.8."

The LSO answered, "Roger ball." It wasn't one of my better night passes, but I stopped on the first try and didn't scare anybody. The taxi director was in no hurry to get me out of the landing area because all side numbers had been safely tucked away for the night — except one.

I was glad to see that I wasn't to be banished to the bow and was being parked in the six-pack area. I wondered why he had to take me so close to the deck edge before turning me. I hate deck edges during night taxi. I had to use differential braking to make the turn, but finally I was "safe" as I headed toward the center, protected on all sides by aircraft chained to the deck.

The taxi director signalled for me to stop. I figured that was where I would park for the night. I simultaneously applied wheel brakes and pulled the parking brake; the nose gear did its typical A-6 "thump" and my forward motion stopped only to change into downward motion.

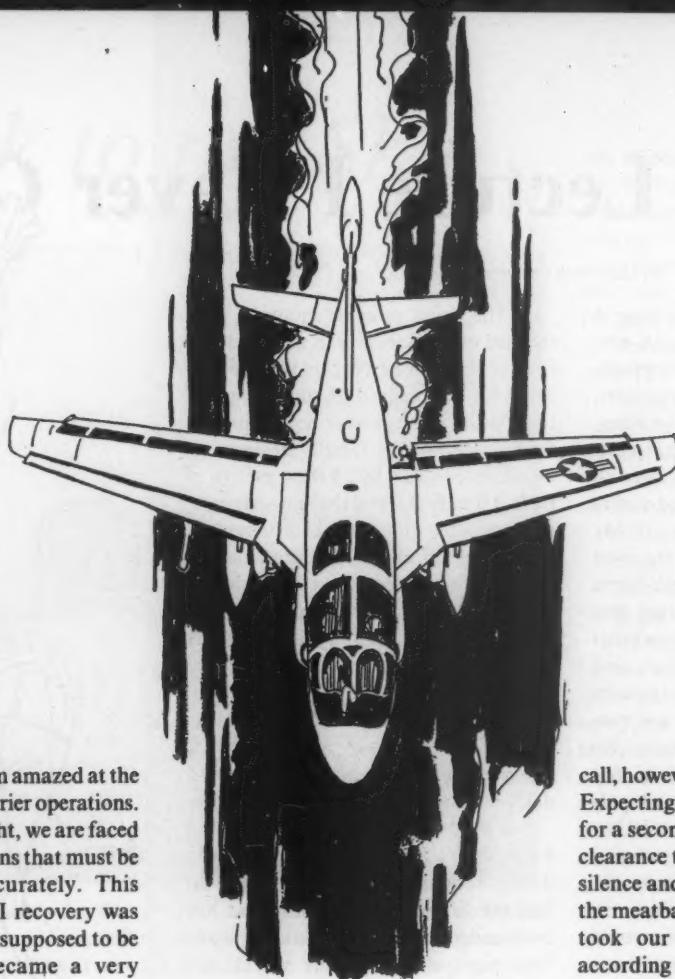
I quickly realized my nose gear was collapsing and my first reaction was to put the gear handle back down. But, wait a minute, it was down. As the nose settled to the deck I was horrified to think we were crushing a DRS/FLIR turret worth nearly as much as the aircraft, itself. Then, I recalled we were in a KA-6D with nothing but LOX bottles in the nose.

I returned to my senses, shut down both engines, opened the canopy with windmilling hydraulic pressure and called for the safing of the ejection seats. The rest was fairly uneventful. The crash crew helped us exit the aircraft.

Anything can happen. In this case, a component that links the system for providing hydraulic pressure to the overcenter lock had failed. A quick stop, combined with the ship's roll, provided adequate pressure and bounce to jar the overcenter lock out of position. I had heard of landing gear collapsing for various reasons before, but there's no substitute for experience.

Remember, the flight goes from the brief to signing the yellow sheet. ▶

Lt. Sandgren is an A-6 pilot with VA-185.



EVERY time I fly, I am amazed at the complexity of aircraft carrier operations. Even for a "normal" flight, we are faced with hundreds of decisions that must be made quickly and accurately. This particular night Case III recovery was no exception. What was supposed to be a normal recovery became a very dangerous situation.

After completing our Prowler mission, we checked into marshal and received our normal instructions: the marshal radial, DME, holding altitude, approach button, and expected approach time. Once established, we adjusted our holding pattern to arrive on time for the push.

Approach control gave us numerous speed and heading adjustments designed to properly sequence us for landing. Our descent from 1,200 feet at three miles was greeted with reassuring course and glideslope information. The "ball"

call, however, was met with total silence. Expecting the LSOs to answer, I paused for a second then repeatedly tried to get clearance to land. With nothing but the silence and the cold, ghostly glow from the meatball and landing area lights, we took our own wave-off at 150 feet according to proper procedures. I suspected radio failure until approach control issued us the standard downwind instructions. We asked if the LSOs were listening to our approach and found they were monitoring the other approach frequency while expecting an A-6E.

An EA-6B Prowler has a heavier landing weight than an A-6E Intruder; consequently, the arresting gear was set for a light aircraft. Had we not taken our own wave-off, we probably would have fully extended the arresting gear and possibly broken the wire or airplane from the shock of the abrupt halt. ■

Lt. Gray flies EA-6Bs with VAQ-130.

21

"Take That Wave-Off!"

By Lt. Tom Gray

The Lecture I Never Got

By LCdr. Rick Cassara

THEY had taught me everything. I knew what to do as B/N in my A-6 in the carrier qualification environment. Marshal, approach, scan, bolter pattern, instrument cross checks, emergencies, checklists, director signals, flight deck procedures and catapult shots were all thoroughly covered and practiced during the six-week CQ phase in the RAG. My pilot and I survived in some of the most trying CQ conditions possible for a nugget: lousy weather, moderate seas and USS *Lexington*. I mean, wasn't that ship designed for the Hellcat and Corsair? We qualified without incident because we were well trained and prepared to operate around the carrier. We knew what to do with the airplane, but that's not what almost killed me barely four months into my career as a B/N.

22

CQ was over, and as a junior ensign, I didn't pull enough rank to make the flyoff. I was stuck on the ship; my glorious return from Pensacola would be on a C-9. As we steamed slowly into the harbor, I took some time to walk around the flight deck, looking with great curiosity at this floating museum. The same place that had seemed so hectic and confusing the night before, now was peaceful and quiet; the only aircraft in sight was a derelict T-2 that had seen better days and was waiting to be craned off. I strolled to the side of the ship on the elevator aft of the island, entranced by the deep blue water slowly sliding by. Satisfied with my tour of the deck, I headed back to my stateroom. It was time to pack.

I saw the stanchions were up around the elevator perimeter but didn't think much about it; they were up when I got on the elevator earlier, and stepping over the cable on my way off would be easy as it had been then. In my mind's eye, I remember seeing an enlisted man with sound-powered phones standing in the catwalk near the elevator and wondering why he was there.

At the worst possible moment, as I stepped off the elevator, it dropped out from under me like a rocket in reverse. I caught myself on the deck edge, dangling there with only my forearms keeping me from falling to the rapidly descending elevator, now 35 feet below me. In a flash, I finally realized the reason for the military's obsession with obstacle courses as I pulled my leg up and over the edge, quickly followed by the rest of my body. I remember being almost as embarrassed as I was scared, and I cringed at the thought of being chewed out by some burly bosun or the Boss. Neither happened, as the deck was virtually empty, except for that man in the catwalk whose expression was difficult to determine as I hurried below.

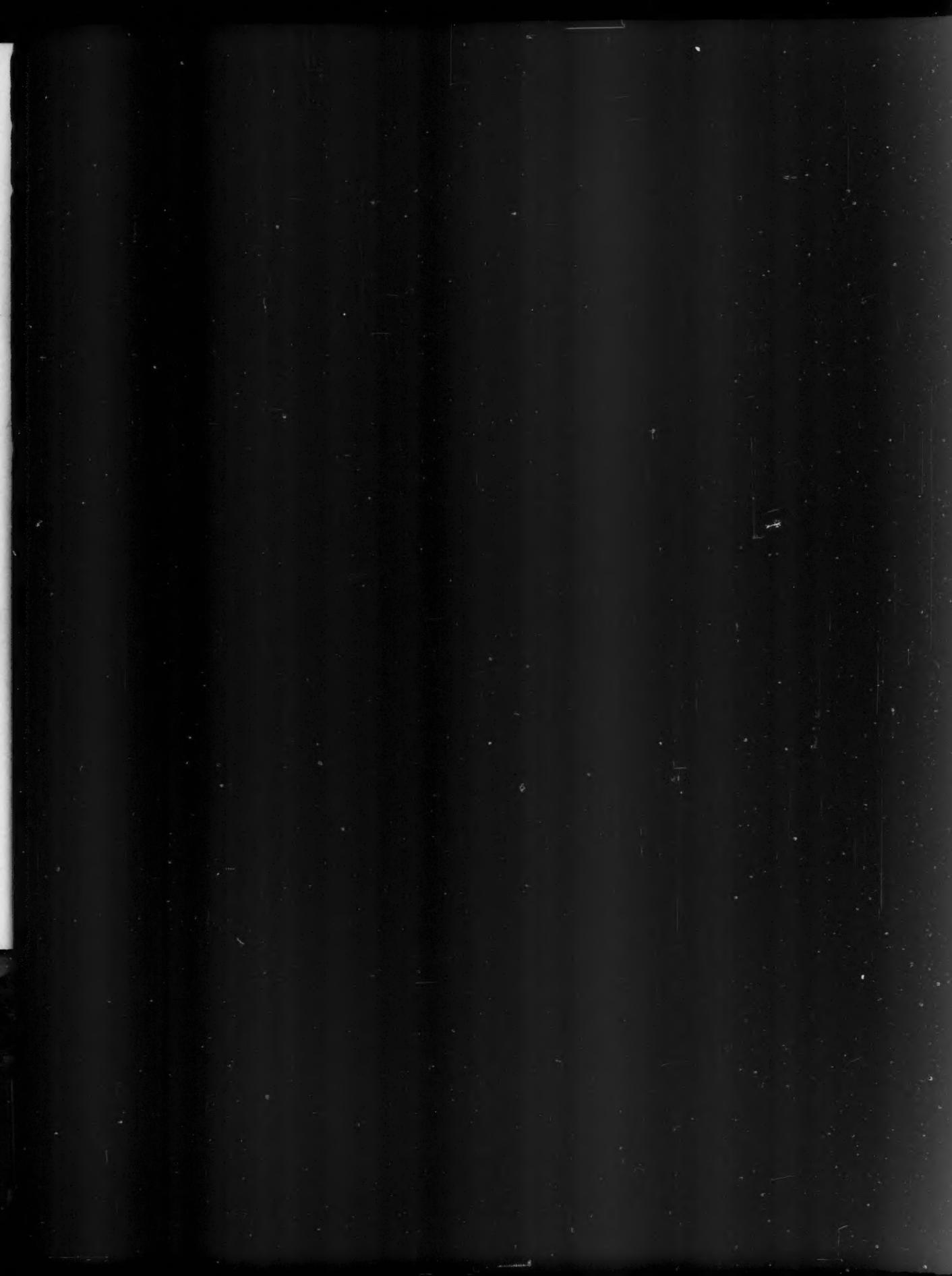
I can't say that I heard a warning horn. It probably had sounded, but I didn't recognize it for what it was. I had had my first encounter with what has been called the most hazardous peacetime environment in the world: the carrier flight deck. Its ability to kill you is very real, even when it seems most serene. Our lectures had covered many things, the most fervent warning being that of getting off the flight deck as soon as possible after leaving your aircraft. The myriad signs, warning horns and markings on the flight deck had not been mentioned.

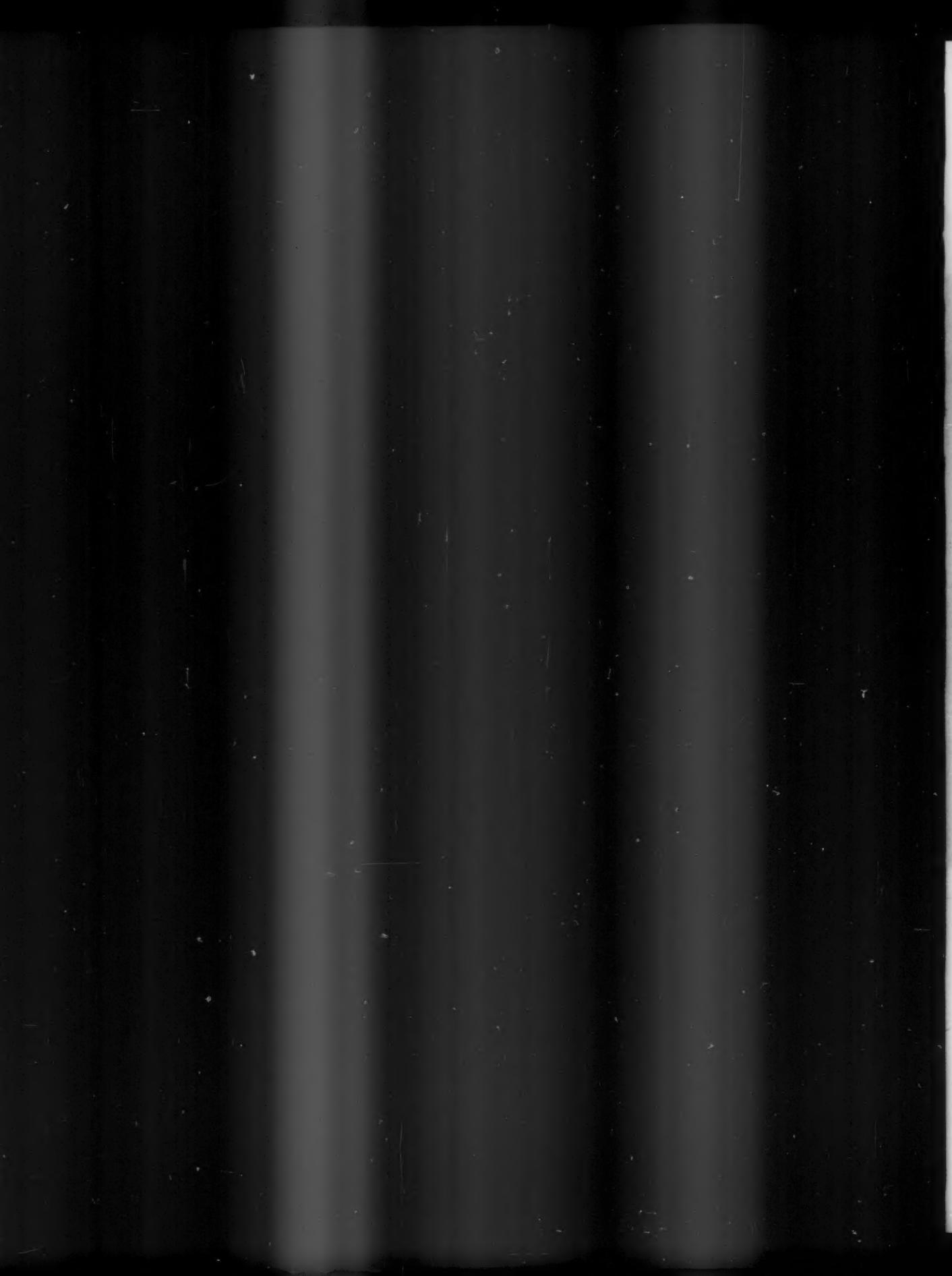
I'm much older now and a little more cautious of unfamiliar environments. We still don't talk much to nuggets about the dangers associated with walking on the flight deck. There's only so much material you can cover in the short period allotted in phase. The troops get a much better indoctrination to the hazards of the flight deck, easing their way into solo work following a period of observation and instruction by an old hand. But, somewhere out there is a junior ensign who feels pretty cocky about having carrier qualified, and who didn't make the flyoff.

LCdr. Cassara is a B/N with VA-165.



John W. Williams





Back to the Ship

By Lt. Mark Darrah



WE hadn't been to the ship for five months. It was now time to go back and CQ. Things couldn't have changed that much since we were there last, could they? By the end of cruise, we had been feeling and looking good. We had won the Golden Hook, and coming aboard had become semiroutine. Even pitching decks, high winds and 4-degree glide-slope recoveries had become daily occurrences which we handled with no sweat.

The tempo of operations really slowed down significantly during the post-cruise stand-down. Operations ashore were at a slower pace and always safer than taxiing around a slick deck. My heart returned to a regular beat during shore-based launches and recoveries. We really didn't give CV ops a thought, figuring if we did it five months ago, surely we could do it again.

Our trip south was a routine high-altitude cross-country flight. There was something in the air that none of us could put our fingers on, a sort of underlying tension. Maybe it had something to do with dialing up the ship's

TACAN prior to descent to the field, and getting a sweet lock, 270 degrees for 35 nm. She was out there, waiting. Suddenly, my heart started beating a little faster, and my scan picked up significantly. What difference could five months make, anyway? Maybe our collective subconscious knew something we didn't.

After the few seconds of adrenalin rush, we dialed up NAS Southwest's TACAN and proceeded to make another uneventful field landing. We were chomping at the bit, wanting to make it a quick evolution. There was no overhead scheduled for the next day, so we spent the day exercising to get rid of excess nervous energy. As the new day dawned, our overhead did come, so we scrambled to our aircraft to man up. Instinct took over, and during the pre-flight, we were tugging, pulling and pounding a little harder in preparation for shipboard operations.

After a normal start, taxi and take-off, we proceeded west and dialed up Mom. Sweet lock, 270 degrees for 35

nm. Unconsciously, we all reached down and pulled our lap belts a little tighter. Switching from center to strike and hearing that voice, we all began to feel comfortable again. Hey! This was just like five months ago. We continued inbound and switched up button 16.

"Rook 605, checking in angels 14, state 12.0"

"Roger, Rook," the ship replied, "report see me."

Sure, we can do that. Easy! Just like five months ago. Tally-ho! Gee, it seems smaller than I remember.

"605, see you at 15."

"Roger, switch 15."

"Boss, 605 inbound."

"Roger 605, charlie."

Charlie, already? Guess we'd better tighten up those lap belts again. We'll show these guys — 450 knots at the bow, just like five months ago. Yes! bitchin' break! OK, here we are downwind. Gosh, it's taking a long time to slow this sucker down. Snakes in the cockpit! Kill 'em! Abeam already! Damn! That deck is really moving. Good thing it's daytime. I hope it's not like that tonight. OK, guy, relax and finish this one before we start thinking about doing this in the dark. I wonder if the moon is still full? Call the ball.

"605, Prowler, ball, state 8.0."

"Roger ball, Prowler, don't settle."

Those LSOs are all the same. I've got it. Wham! Geez, what a screwed up pass that was.

We were no less the aviators, but our bodies remembered the stresses associated with carrier aviation better than our minds did. It took time and a lot more concentration to smooth out the tattered edges developed during the turnaround period. My body was trying to tell me something, but I wasn't listening, writing it off as nervous energy. The carrier environment is stressful, but we learn to cope with it as time goes by. Carefully consider procedures, numbers and your attitude after a stand-down. It may help you adjust sooner and kill those snakes before the break. Don't fool yourself; just because you had it wired once doesn't mean you're at the same peak five months later. ▶

Lt. Darrah is the personnel officer for VAQ-137.

The AV-8B on the JFK

By Peter Mersky

24



RECENTLY, the Navy and Marine Corps conducted an experimental CQ aboard the *USS John F. Kennedy* (CV-67) to introduce a conventional aircraft carrier's flight deck crew to the unconventional Harrier. The applications of the Harrier to CV ops are obvious, especially considering what happens if the AV8s' LHA is put out of commission, or sunk during combat. Where do the Harriers go to continue the fight? Planners are also considering replacing a Marine A-6 squadron in the CV air wing with AV-8Bs. The Harrier could

continue flying from the carrier, even though the ship's catapults might be damaged in combat.

During the planning sessions between the *Kennedy* and VMA-542 at MCAS Cherry Point, the Navy voiced concern about storage of fresh water for the AV-8B's injection system. The Harrier II uses water injection to increase takeoff power when the temperature and humidity are high, or when lifting maximum loads. The carrier considered running fresh water to the flight deck in addition to the water available for the

normal washdown system, but the Marines have a 500-gallon water trailer, similar to a lox cart. However, the weather during the January CQ was cold enough, and the aircraft did not carry underwing stores.

Perhaps the main concern for the Navy deck crew was the Harrier's powerful and noisy engine. The two huge fuselage intakes sit right behind and below the cockpit, posing as great a potential hazard as the A-7's gaping maw. The *JFK*'s crew found that, while constant vigilance was required, the

Harrier's Pegasus engine idled at only 27 percent, and did not create the suction of other powerplants.

However, there were still hazards to be considered. One of these was the four puffer ducts that contribute directional control along the three axis of flight. There is a duct on each wing tip, one under the nose, and one on the tail. Resembling a rolltop desk cover in operation, these outlets quickly open and close in response to the pilot's control stick movements, and can sever a crewman's fingers if he is using the duct as a convenient handhold.

Another Harrier hazard is the extreme heat of the engine, which can be directed at unwary crewmen when the pilot rotates the engine nozzles downward. One unfortunate individual — not during the *Kennedy* CQ — had his beard literally burned off when he was exposed to the powerful blast of the B's engine. Cdr. Paul Metzger, safety officer for the *JFK*, commented, "These variable thrust nozzles create a different safety problem than we're used to. The danger of burns and blowing FOD necessitate a reeducation of the troops."

Two AV-8Bs came out to the *Kennedy* for a two-hour period. The two pilots made eight landings apiece, as well as several short takeoffs and vertical takeoffs. The flight deck crew saw a good demonstration of the Harrier's impressive performance. The Marine aviators also taxied their aircraft on the deck, testing space requirements and maneuverability around the catapults.

The two outriggers on the AV-8B have a narrower track than those on the



A, and the tires are bigger, giving better control on the ground and deck.

The weather during the CQ was Case I, cloudy, but with little wind; there was 25 knots down the angle, optimum for VTOL ops. The AV-8s flew a normal Case I pattern, slowing down as they approached the 180, and establishing a reference point going from the 90 to 45, in this case, the numbers on the carrier's island, which were at the same altitude needed to establish a hover. The pilots reference the ball only for a moment, then level their aircraft at 100 feet above the water, 30-40 feet above the deck. They cross the fantail and fly forward to Spot 3, forward of the No. 4 arresting wire. AV-8s use four spots, as opposed to six for helicopters.

The VMA-542 LSO, Capt. Scott Shogren, observed the sequence from the tower, not from the LSO platform. The LSO talks to the AV-8 pilots, advising, "a little right, forward" to maneuver above the deck's centerline. The landing looked hard to the Navy crew, but in reality was softer than a conventional aircraft's touchdown.

One unique point about Harrier operations aboard a CV is that interval is *no* problem. Think about it. If your interval is closing, just slow down or hover until you've got space, then "Come on down-n!"

During launches, the LSO uses a laptop computer — easily portable in the field — to compute parameters, with inputs for temperature, density altitude, aircraft weight and configuration. He can then tell the pilot whether to launch "wet" with water injection or "dry," and also what nozzle settings to use. During EMCON conditions, the launch requirements are indicated to the pilot with hand signals: two fingers for dry; five fingers for wet.

The general consensus of the *Kennedy*'s crew was that the Harriers were easy to work. CWO2 John Holscher, the *JFK*'s fuel bosun, had experience with AV-8A as an ABHC in the USS *Inchon* (LPH-12) in the '70s. "They've come a long way since 1974," he said. "The landings are much more refined." The Navy crew found the rolling takeoffs "scary" to watch. The AV-8s rolled toward the angle, nearing the edge, then leaped into the air as the pilot rotated the nozzles. Operations aboard a CV were found to be easier than aboard a smaller LPH, which required timing the rise and fall of the deck for a launch. Cdr. Metzger added, "We were comfortable. We learned how easy it was to operate the AV-8B from a CV. I'm sure if the Harriers were integrated with an air wing, we'd discover lots of more areas to be concerned with, but for the moment, our greatest fears were put to rest." □



Two Nuggets and One Pearl

Anonymous

Nugget No. 1

A nugget on cruise enters the break at the carrier prior to a day VFR pass. It is a windy day, and he is concentrating on his pattern and the landing. He completes his checklist, and the RIO rogers each step. As they roll into the groove, the RIO notes that the airspeed is 150 knots. "We're a little fast, aren't we?" he asks. The pilot looks at the indexer and spots the on-speed chevron. "The indexer says we're OK," he replies, and returns his concentration to the ball, hoping the RIO won't interrupt him again.

They trap and while cleaning up the cockpit to effect his turn out of the landing area, the pilot notes that the flap handle is already in the "flaps up" position, his first indication that he has landed flaps up.

In the ready room, the tower flower reports that the air boss saw the configuration on the landing roll-out, noted that there were 35 knots across the deck, and allowed as to how lucky the aircrew was. No harm done.

The LSOs debrief the pass as an OK 3-wire and are incredulous when the pilot tells them what happened. A look at the PLAT replay leaves everyone shaking their heads. Pilot, RIO, wheels watch observer and no less than six LSOs have allowed a flaps-up pass. The grade is changed to "fair"!

Nugget No. 2

Two F-14s approach the break during day VFR operations. The Boss calls to "drag one," and the lead detaches the nugget wingman via a hand signal. A quick discussion between the pilot and RIO in the Dash 2 aircraft ensues as to what "drag one" means. They agree on a definition and depart the formation. The pilot extends the speed brakes and descends to 400 feet. The gear is lowered at 250 knots. At 200 knots, the pilot tries to lower the flaps, but the handle won't move. The pilot looks outside to assess the situation. He is now inside two miles, on centerline, slowing to on-speed and is apprehensive as a gerbil in a

Key West pet shop.

Once again, he tries to lower the flap handle, and again the handle appears stuck. He begins to report the problem to the RIO when the aircraft begins to shudder with sluggish control response. Instinct takes over, and the pilot adds full power and looks around for the elusive bubble. A check in the mirror reveals that his wings are at 68 degrees. He selects burner and brings his wings to 20 degrees. The aircraft bottoms out at approximately 300 feet and 150 knots. The F-14 goes around on its first pass and traps on the second. The Boss is not amused.

And the Pearl

A fleet aviator on his way to NAF Outlying Field for FCLP contacts Paddles, who says, "Not in sight. Report the numbers for 23; you're number one in the pattern." The pilot, hearing that he is the first to show on a day emergency period, decides to demonstrate his prowess with a Sierra Hotel break. He sweeps the wings to 68 degrees, gets 450 knots on the bird, hits the numbers and

breaks as the RIO reports the numbers over the UHF. The LSO still does not have the F-14 in sight and turns around to witness an impressive F-14 break for runway 5. He transmits over the radio, "Duty runway 23," whereupon the chagrined aviator announces his intentions to depart and re-enter. "My lips are sealed," the LSO calls.

Submitted by the VF-33 Safety Officer.

Peter B. Mersky



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Lost

By Lt. Bruce Greer

"WHERE is the ship? I don't know." This is the worst feeling you can have while returning from a long-range mission with only enough fuel to stay aloft for one more hour.

It started as a normal day. Our squadron had an Alert 15 crew and aircraft set with a TARPS pod attached. The call came to launch. The mission: get pictures of a high-interest merchant ship. The alert RIO was not TARPS-qualified, and the squadron did not want to miss the shots that the admiral wanted. I volunteered to take his place.

I raced to put my gear on, took my friend's brief card and dashed out to the plane. Once on deck, we quickly took an automatic stored heading alignment and launched.

Strike had us rendezvous with an overhead tanker and gave us a vector, 104/570. The pilot and I started a DR plot as we headed outbound. The INS had aligned itself to a point

nowhere nearby, but we felt we could proceed from the reference point dropped at the ship's position. The carrier was in EMCON, but we found another ship in the battle group radiating its TACAN and the crosscheck looked good.

As we got farther from the ship, we asked for two additional checks of our INS. We called on our tactical frequency for winds. The only response we received was from an aircraft that was 250 miles north, at a different altitude, where the winds were different from ours. We talked to our A-6 escort tanker to confirm our winds. He concurred that his winds were very close to ours; in fact, the winds were a strong quartering tailwind, instead of the almost direct headwind we were showing. We checked the one TACAN in the battle group that was radiating. The azimuth held steady; the DME was weak. We were confident that a simple reversal of course

Check your position and use all the tools at your disposal. Check your ADF. In an EMCON situation, it may be your best guide home. It was in our case. Ask for help. The I-can-hack-it attitude does not help much if you have to swim home.

would bring us home.

On the long journey, we had worked out our best cruise altitude and speed, and a comfortable bingo back to the ship for a night recovery. We discussed the F-14 mishap that occurred a few months before in which the crew was forced to eject because of fuel starvation after they got lost in a similar EMCON situation. We knew the mishap crew and we were determined not to be adrift in a raft for 22 hours because of a bad INS, or because we asked for help too late. We'd read the mishap investigation report and talked about it at length during an AOM.

Our INS took us almost exactly to where we picked up ships on radar where the target was predicted to be. At almost the same time, our INS failed, we had to switch to our backup mode, IMU. We took pictures of the various merchant ships in the area and climbed back to altitude well before reaching our bingo fuel. We took a reciprocal heading for home.

The flight back was long. The sun had set, and at an estimated 200 miles from the carrier, we could not pick up any ships on radar, nor any TACANs in the battle group. We pressed on. At 150 miles, we tried to contact Strike without success. Strike's radio had been very weak during the at-sea period. We continued to try to pick up any lead back to the ship. At 100 miles, with no TACAN and nothing on radar (it had worked perfectly earlier), we tried contacting some of our airborne aircraft. The reply was not encouraging. A badly broken response indicated we were still some distance from our destination. To make matters worse, the ship's TACAN was now on, yet we had a spinning needle.

We tried to establish good radio contact and switched to tactical frequency on the back seat radio to get an ADF cut. Fortunately, we asked for help at this point. It was obvious the ship was not nearby, and our comfortable bingo was no longer adequate. No E-2 was airborne to pick us up. Our skipper was in the air, however, and broke off his mission to help. When we got a weak ADF cut, it was 40 left of our course and we could not get air-to-air TACAN for range. We declared an emergency and squawked accordingly.

We had our squadron aircraft relay our problem to the ship, but they had nothing on radar. The skipper took charge and asked for the Alert E-2 and tanker to launch. Strike did not reply immediately, but the CO's assistance had a calming effect on us, especially since we were not in direct contact with our ship.

Meanwhile, the ADF cut seemed to be steady and the tanker had launched. We were at least 240 miles away with the fuel originally planned for the ball. No one had us on radar and I still did not paint any ships on my scope. The ADF needle was our only position indicator. Time was racing by. Although we were already at maximum conserve, we were reminded to go max endurance; we needed every minute of fuel.

The skipper was continually directing us and had picked up our IFF at 200 miles on his interrogator. Confirmation of our position was comforting, but we only had enough fuel to get back overhead the ship. It was now time for a maximum range profile. We needed more fuel to shoot the approach. After meeting the alert tanker, we managed to tank on the first try. The subsequent night recovery was uneventful and an anti-climax to our anxious moments earlier.

The lessons from this incident are not new. Before going 500 miles out, get the winds. Our alert was called away during a normal launch. I could have delayed long enough to call weather for the winds and still arrived at the plane in plenty of time for the alert. If you are asked by radio for winds, respond accurately. Do not agree with the caller's winds just to get him off the air. The winds that our squadron aircraft gave us were accurate. Had we used this information instead of our INS winds, we would never have gotten lost. The fact that the A-6 agreed with our winds lulled us into a false sense of security. Our contact of interest was at its predicted position according to our INS; this fact influenced us in trusting its accuracy. In reality, the INS had drifted more than 200 miles.

Check your position and use all the tools at your disposal. Check your ADF. In an EMCON situation, it may be your best guide home. It was in our case. Ask for help. The I-can-hack-it attitude does not help much if you have to swim home. Take charge! If you need help, or have declared an emergency, push for action. You are the one with potential Class A mishap.

Finally, read *Approach*, and the message board. Both are full of information that may save you one day. The lost-plane brief and discussion during our squadron training AOM by our more experienced aircrew enabled them to pass along a wealth of knowledge to those of us who had not been there. If you do not read and heed the advice in *Approach*, at least be someone who writes about the time you explored the wrong side of life insurance statistics.

Lt. Greer is a RIO with VF-154. He is also the squadron public affairs officer.

If more than one person is responsible for a miscalculation, no one will be at fault.

Ace L.

A Night on the “Fright” Deck

By Lt. Pat McDonnell

I'M a first tour RIO in the middle of my first WESTPAC-IO-MED cruise. This story happened to me one night during one of our first work-up periods. The sky was pitch black, and the lights of San Diego were just visible on the horizon from the marshal stack. It was a beautiful night for flying and, as I later found out, for discovering the dangers of a dark flight deck.

The evening started out normally enough. My stick and I briefed another night AIC hop with Brand-X squadron. A few minutes after the brief, I headed into the PR shop to find my very experienced pilot getting ready to walk. He was having the rigger put a clear visor on his helmet for the night hop ahead. "Maybe he knows something I don't," I thought to myself. The night was already starting on a careless note, not a good sign. I grabbed my helmet — without a clear visor — and headed off to Maintenance Control to read the book.

After noting a few minor gripes, I made my way toward the flight deck. Stepping on the metal grating in the catwalk, I slipped on some invisible hydraulic fluid. Luckily, I regained my balance and started up the ladder to the deck. While I was walking under the parked F-14 above me, my head jinked to the right as I responded to the stinging feeling in my left ear caused by an unseen Sparrow missile fin that I'd just had an unbriefed I \vee I with. "A little darker than I thought," I said to myself as I rubbed my throbbing ear and went to find my jet. If I had had my helmet on and visor down, the fin would have glanced off the plastic instead of my skull. Of course, I checked my six when clear of the parked jet to make sure nobody saw that clumsy move.

I arrived at my airplane and started my usual preflight. After being temporarily blinded by an unfiltered flashlight aimed carelessly high, I quickly made my way past the starboard mainmount, checking it for wear and integrity. I was stopped suddenly and painfully by one of the many effective but invisible tie-down chains around the aircraft. While rubbing my shin, I shone my flashlight aft to where I would have landed had I tripped. Awaiting me was an open electrical outlet pit that was providing ground power for our turn-up. I wrapped up the preflight and climbed into the cockpit wondering if maybe this just wasn't my night.

After we returned from a picture-perfect flight ending in an OK 3-wire, the adventure began again. I climbed down from the plane and began a careful walk through the six-pack with my pilot toward the catwalk, eyes peeled to the deck looking for the ever-present, stealthy tie-down chain. Suddenly, my pilot's outstretched arm pressed against my chest. His other arm extended toward a parked Tomcat's exhaust line. The jet was still turning! Another hazard obvious during day operations, but invisible at night. We carefully went around the turning aircraft and descended into the safety of the ship's passageways.

I made my way back to the ready room a little shaken, and thinking of all the dumb, careless moves I had made that night. They were lessons I will never forget and are deeply embedded in my habit pattern: Always wear your visor down on an active flight deck, and keep your mind constantly on the dangers of night ops. I always try to remember the increased danger of being on the flight deck after sundown. You should, too. Don't learn the hard way.

Lt. McDonnell flies with VF-24.

Things Don't Change

By Richard A. Bishop

WE stumbled through our first couple of launches and recoveries by watching and talking to the Navy plane captains. It did not take us long to find out that the flight deck during cyclic ops in support of combat operations in Vietnam can be hot, tiring, dirty, long *and* dangerous. On a typical day, we would launch and recover aircraft four or five times. We seldom slept past 0500, and by the time we recovered the last flight, serviced the aircraft, spotted them for the next morning's launch, and secured them for the night, it was 2200. We worked seven days a week.

30

During flight operations, we were required to have two plane captains on each aircraft at all times. We had to preflight the planes, service any system requiring attention, secure the aircraft with two tie-down chains per landing gear — three at night — and ride the brakes during respots. Since someone had to be with the aircraft at all times, we had to eat and perform our personal chores in shifts.

The only time we really had any free time was when our planes were on a mission. Then, we had about two hours to ourselves. Some of the guys would find a shop or office where they could sit around and drink coffee. A lot of time was spent with a friend watching the water go by.

I think launching the aircraft, at least the first few times, scared me more than any other operation aboard the carrier. With all the aircraft turning up, you couldn't hear anything but the sound of the engines. If you saw someone walk directly in front of an intake or about to walk into the exhaust blast of a jet, you were helpless to yell a warning. All you could do was watch. We became increasingly tired and lax in following safety precautions.

I would like to think I may have saved a sailor's life while launching aircraft one afternoon. The aircraft to the left of mine pulled out and made a left turn toward the cat. I guessed what was going to happen and knew I was about to be hit by the full exhaust blast. I ducked down under the nose of my

plane and straddled one of the tie-down chains. With my back toward the turning aircraft, I grabbed the chain between my legs and held on for dear life. I looked up and noticed a sailor standing on the flight deck in front of my plane; he hadn't seen the other turning aircraft.

The sailor caught the full exhaust blast and was literally thrown toward the side of the ship. As he flew by, I managed to reach out and grab his shirt while still holding the tie-down chain with my other hand.

Recoveries could also get hairy. Once the aircraft landed, the pilots would fold the wings and taxi to the bow. There, the planes were chocked and chained, and the engines shut down. Once the recovery was completed, we would begin to start refueling the aircraft, refilling oxygen bottles, and hanging bombs and rockets for the next launch. These operations were all done at the same time, something we never did during peacetime. One spark or drop of fuel in combination with liquid oxygen could have blown us all away. ▶

Do you see a few things here that strike a nerve? Ever see some of this stuff on your flight deck? This account describes operations aboard the USS Bon Homme Richard (CVA-31) in the South China Sea, off Vietnam, in late 1964. The war was just beginning, and Richard Bishop was a young Marine plane captain, a member of a detachment put aboard the carrier at the last minute to augment Navy assets. For Bishop and his friends, it was their first time aboard a carrier, and they had to learn as they went, strictly on-the-job training.

The hectic pace of combat operations, and an atmosphere which permitted a looser attitude toward safety, set the scene for several possible tragedies. But, it isn't that different from current operations.

Remember, training and can-do intentions won't mean a thing if you aren't constantly vigilant. In the two decades since Dick Bishop stood on the Bonnie Dick's flight deck, the danger has not diminished one iota. — Ed.

Mr. Bishop served as an RF-8A plane captain with VMCI-1 in 1964. After leaving active duty in 1971, he received a degree in electrical engineering and now works in the Mine Engineering Facility of the Yorktown Weapons Station, Va.

And Life Goes On

By AME1 Steven R. Killmar

IT was a typical hot and sunny day in the Indian Ocean. The clouds floated across the bright blue sky like large balls of white cotton candy. The only thing bluer than the sky were the gentle, four-foot rollers of the sea. Aboard our carrier, the aircrews and flight deck personnel prepared for the first launch of the day, a later afternoon go. Among the many aircraft were two of our multi-mission S-3s, plus a turning spare, aircraft 710. I was one of the squadron's safety observers.

After watching the start of 705, I assisted 710's plane captain to ready the aircraft. The No. 1 engine was started and the landing gear pins were pulled. As the No. 2 engine was started and beginning to light off, I noticed a "brown shirt" approaching the aircraft from behind the No. 2 engine. I tried to signal the man away but to no avail; he had his mind elsewhere.

As he proceeded on his dangerous path, he miraculously avoided the hot exhaust. He was fortunate, indeed, that there was not a tailpipe fire, which occasionally happens during an engine start. The brown shirt then attempted to make his way forward between the engine and the wing drop-tank. At this time, I was a bit tired of flapping my arms like a great bird, and reached under the drop-tank and grabbed him by his life vest. He did the one thing he shouldn't have: He pulled away, narrowly missing, placing his face in the engine exhaust. Then, realizing his predicament, he allowed himself to be guided to safety under the drop-tank.

Out of the corner of my eye, I caught a flash of silver passing between the engine and drop-tank. Before I could think about it, I spun and dropped my



right knee, left leg extended, grabbed two large handfuls of silver asbestos fire fighter's jacket, and guided the crash and salvage man away from the intake of the turning TF-34 turbofan, and safely outboard.

Often, it seems we are our own worst enemy. When involved in a high tempo environment, where the potential for harm is great, we allow our minds to

wander, knowingly take chances, or become so accustomed to performing without mishap that we lower our defenses. Our inattention and complacency are only revealed by an unexpected tragic interruption of normal operations. We are not actually at odds with ourselves. Our true enemy is complacency, and it lives and grows within us. ►

AME1 Killmar is the environmental egress systems QAR for VS-37. He has also served with VAW-126 and VS-41.

Looking Good, Looking Bad

By Lt. Herb A. Arnold

FEW qualities are more sought after by naval aviators and NFOs than that Holy Grail of our profession, "looking good." These simple words evoke the essence of perfection in so much of what we do and how we do it.

Remember training command? Maybe you pondered the outside possibility of slamming millions of dollars worth of orange and white aluminum into the local real estate along with your fleshy, sweating body. Remember how that paled in significance to that black spectre, that antithesis of looking good, "the down?"

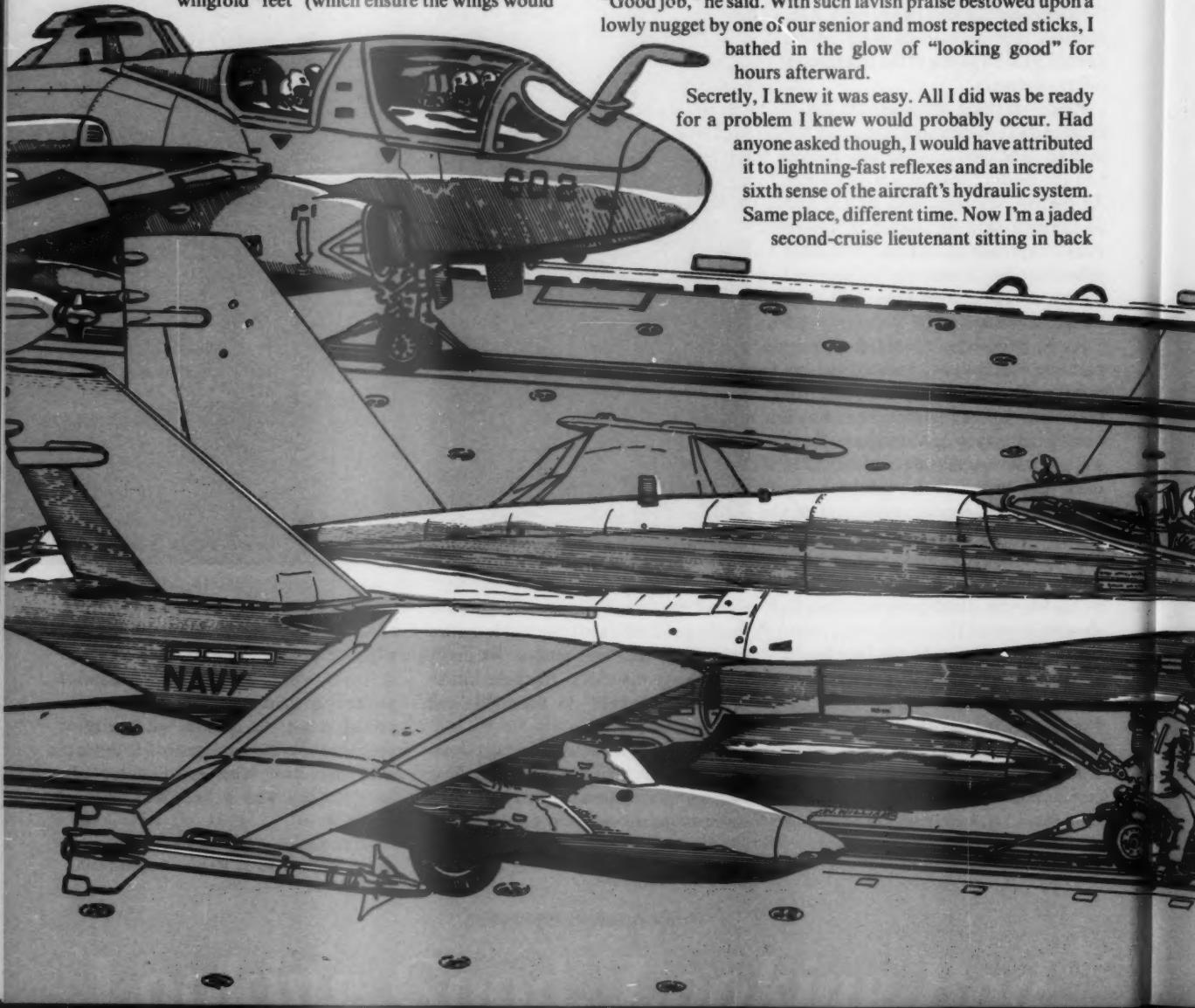
I was a first-cruise junior grade, manning up for a night launch in one of Grumman's more beautiful creations, the EA-6B. My pilot and I had both noticed on preflight that the wingfold "feet" (which ensure the wings would

stay folded when hydraulic pressure was applied) were slightly unseated. This condition might allow the wings to spread on start-up. We continued the walk-around and strapped in.

Various delays then popped up. The huffer was down for some reason, the gyro had to be looked at by a trouble-shooter, a radio wouldn't key-secure properly. Finally an engine-start was initiated. Perhaps my pilot had been distracted by the other problems. Perhaps he just thought I had forgotten, but before he could say the "g" in "get the wings!" I had moved the handle forward and back.

Our wings had barely tipped toward the two other aircraft we were squeezed next to when they safely folded themselves. "Good job," he said. With such lavish praise bestowed upon a lowly nugget by one of our senior and most respected sticks, I bathed in the glow of "looking good" for hours afterward.

Secretly, I knew it was easy. All I did was be ready for a problem I knew would probably occur. Had anyone asked though, I would have attributed it to lightning-fast reflexes and an incredible sixth sense of the aircraft's hydraulic system. Same place, different time. Now I'm a jaded second-cruise lieutenant sitting in back



Instead, I committed an NFO's greatest sin: I was along for the ride.

as we taxi up for another black hole night launch. I'm a little bored. I've done the mission a million times. I'm looking out the canopy as we come up to cat 4, but not really thinking about where I am.

My reactions are automatic. I feel the tow-link drop in place, feel us go into tension, hear the pilot say the wipe-out and engine look good and then, "OK, my lights are coming on."

I'm in a good position, hand on my ejection handle and eyes on the airspeed indicator, waiting for that good old car-wreck feeling. Here's where time suddenly goes to slow motion. Out of the side of my eye, I notice that the F/A-18 waiting on cat 3 has his wings spread. My Prowler is shaking from two J-52 P408 engines at full power. In a fraction of a second, I have this conversation with myself.

"Hey, that's not right, is it?"

"Nope, I don't think so."

"We won't clear his wing if it's spread, will we?"

"No, doesn't look like it."

"Gosh, that's kind of unsafe isn't it?"

"Yeah, probably is."

"Gee, I wonder what it would be like to hit that thing on the stroke?"

"I don't know."

"Wake up you idiot, you're going to die!"

It seemed like forever, but I finally diverted some adrenalin to my left foot to key the radio. Then the Boss, like a kind of angel, said, "Throttle back 607, you're suspended." We came back on the power,

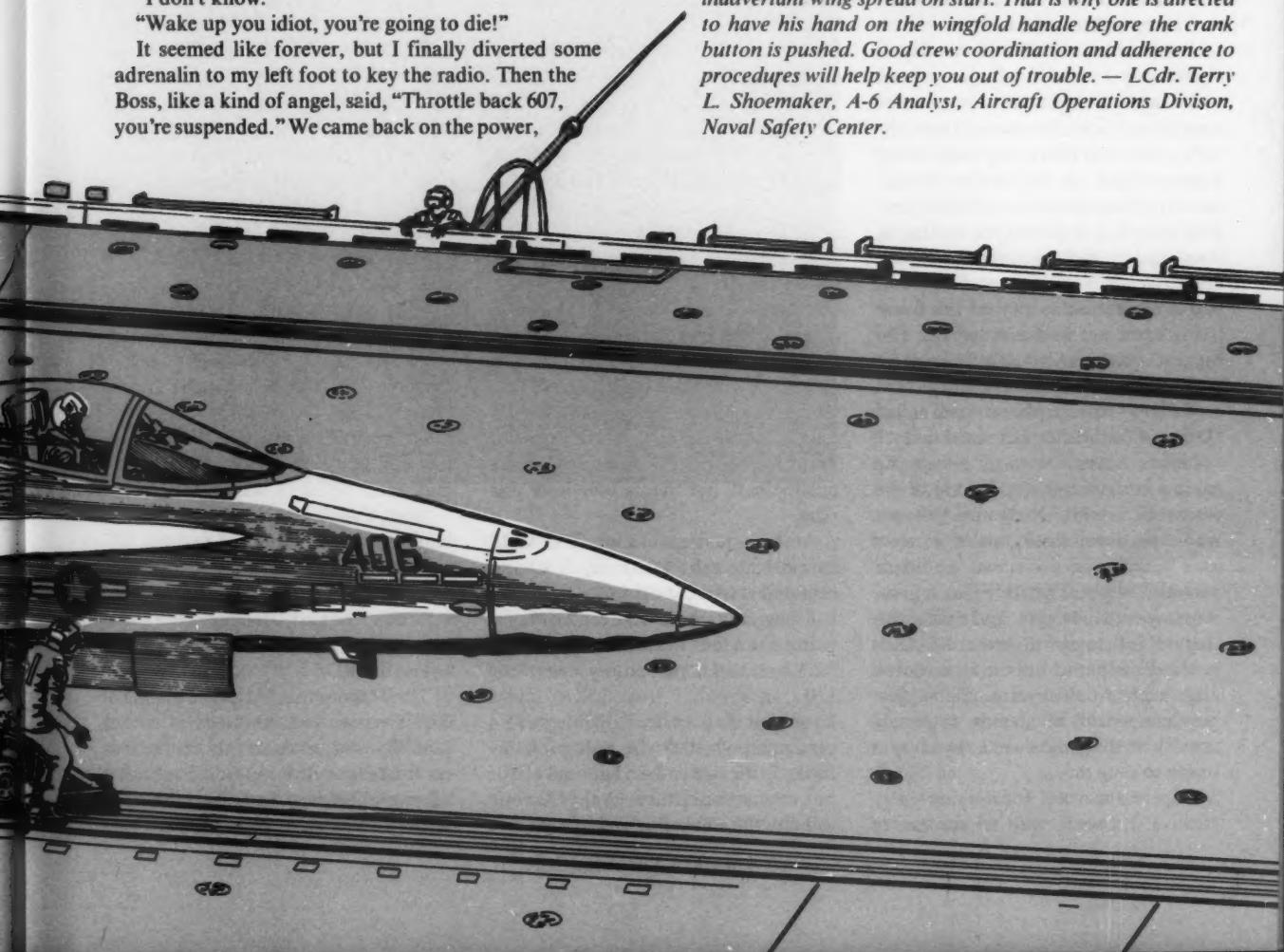
and I noticed my mouth dry and open, my hands gripping the ejection handle like I was trying to choke it, my left foot cramped and my heart racing like a jack rabbit.

I still don't know how long it was between when I saw that wing down and when we were suspended — somewhere between one second and two years. If I'd been just a little more aware, looking for a problem to catch, I could have coolly brought the situation to everyone's attention and wound up "looking good." Instead, I committed an NFO's greatest sin: I was along for the ride.

All good Approach stories have a moral, and here's mine: It's easy to do the right thing and look good when you can see a problem coming. It's also easy to scare yourself to death and look real bad when you don't pay attention. Disaster walks up, taps you on the shoulder and says, "Hi there. Your turn today?"

Lt. Arnold is personnel officer for VAQ-139 aboard the USS *Constellation* (CV-64).

Sounds familiar. Disruptions of normal routine, distractions, making assumptions. The big blue book has taken the working environment and the experience of others into account when it addressed in a caution note the hazard of inadvertant wing spread on start. That is why one is directed to have his hand on the wingfold handle before the crank button is pushed. Good crew coordination and adherence to procedures will help keep you out of trouble. — LCdr. Terry L. Shoemaker, A-6 Analyst, Aircraft Operations Division, Naval Safety Center.



The Night Paddles Robbed My Wife

By Lt. Tom Gansse

IT'S true. The insurance money was almost right there in her sweet little hands. She could have had it all, but that SOB stole it from her when he waved me off. This was not your ordinary every-night wave-off. Those of you who stake your lives on the Fresnel lens, read closely.

The night was just another government-issue Mediterranean spring night with a milkbowl below and a late-rising moon to light the sky in time for my recovery. I was the recovery tanker, and after launch, I found myself waiting in the slingshot. It was going to be a good night. My jet was a full-up round and had a reputation as one of the finest flying machines in the squadron. The biggest challenge tonight would be managing my fuel so I could say "I'm ready now" when tanker control called "Dump, Charlie. Say estimated delay."

Things have a way of conspiring against you, though. By the end of the cat stroke, my HUD was unusable; my whole platform (read "attitude reference") had gone away, but no major problem — yet. The A-7E has a good crossover attitude gyro, and flying with that is like flying a full system TA-4J. It is also possible to obtain an airborne alignment. At this point, the biggest problem would be staying extremely smooth on the gauges while anyone was trying to plug me.

I spent the next hour trying every trick in the book, with no success, to

regain a platform. I watched the moon get higher as the recovery began. I buckled down for the best instrument approach I could fly. All the other planes were on deck now, and the only other tanker was on final. They called the helos close aboard and told me to dump Charlie.

The ship called, "Say delay."
"I'm ready now," I replied.

After flying around in a 20-30-degree angle of bank for an hour and a half, a wings level quick-drop into the milkbowl at 1,200 feet and a tight turn to final can really baffle the old ear canals. But, I felt good tonight. I intercepted bullseye until approach called ACLS lock-on, then I began one of the finest needles approaches I have ever flown. At one mile, I knew I had it railed. Tonight was my night. I was on lineup with centered needles, confirmed by the ever-present, self-contained CCA. I still couldn't make out the ball, but the datums were just right.

At three-quarters of a mile, I was told to call the ball. I left my VSI and centered needles, looking out to see the ball magically appear dead center, maybe rising just a tad. I called the ball.

"Roger ball. Don't go any lower," the LSO answered. I trust LSOs, and I know that if a pilot does anything with a centered ball start, he will probably settle on the ball call, so I goosed a little power on to make them happy. As soon as I did, the ball started going high, so I

made the appropriate correction. At the same time, Paddles said, "Don't settle. Power. Power!" I started wondering what those guys were smoking out there.

Doing my level best to fly the ball, I politely replied, "I'm looking at a rising ball." A later review of a video recording revealed that this call had been blocked out by two more hard power calls. The next thing I heard as I looked at my beautifully centered ball was "Power! Power! Wave it off!" Mine is not to question why; mine is but to do or die. I chose to do.

After getting my instructions from approach, I called paddles and mentioned that I was just a little confused as to why I was getting power calls and wave-offs with a rising ball. Surely I couldn't have been flying upside down the whole time — it wasn't that bad a night. I looked outside. A quick check revealed moon and stars above, CVN and water below. I was right side up.

"Hey, Paddles," I called, "honest, the ball was high."

"Sure, sure, we believe you."

I wonder what he's smoking out there.

"Look," he said, "disregard the ball if you have to, but you've got to respond to the LSOs."

Think about that. After thousands of FCLP passes and hundreds of carrier landings, one tends to rely on the lens for trustworthy information. I can think of several times when LSOs have been wrong — some have even admitted it —



Peter B. Mersky

but the ball has never lied. On with the story.

As I proceeded downwind, totally confused, the CAG LSO called the plane guard helo over for a lens check. He talked him into an LSO's-eye view of "on glideslope." Much to my relief, the helo driver confirmed he was looking at a high ball. He then dropped well below glideslope and from that position reported seeing a centered ball. Sounded like an ideal opportunity to rig the

MOVLAS.

"404, Paddles. Try it again. Disregard the ball if you have to. Just respond to my calls."

The approach went well until three-quarters of a mile when I called the ball again.

"Roger ball. You're a little low, flat." I added power. The ball was going up.

"Power," the LSO called. OK, I added more. The ball was off the top now.

"Gee, this is fun, Paddles." I thought.

Where are my deckspotting skills when I need them?

The attempted talkdown with no glideslope reference ended in a bolter. Next pass was trick or treat, so they broke down the alert tanker while they rigged the MOVLAS. An abbreviated downwind and quick turn to final set me up for an uneventful MOVLAS recovery and an OK 3-wire. I could hardly wait for the LSO's debrief.

As I walked into the ready room, I was greeted by my squadronmates who looked at me as if I was a WDM (walking dead man). Sure, there was a little problem out there, but everything was under control. One of them asked with a grin, "Wanna see your passes?"

"Sure," I said, "roll the flick."

Now that I got to see what the LSOs saw, I understood their concern. I also felt the need to take a little weight off my knees, which for some reason, suddenly felt weak. I was astounded to see the approaching lights expand in the cross-hairs right up to the ball call. The transition from needles to ball was obvious. The airplane picked up an immediate high rate of descent, not a settle, but a steady, steeper glideslope. Ramp strike wouldn't have been a problem. They estimated my point of impact at about 300 feet behind the ship. I would have died believing it was an OK pass.

In retrospect, I asked what I could have done to save myself. I remain

convinced that, given all the cues I had available, only the LSO came between me and the water. If I had had a platform and corresponding HUD, I could have seen the situation develop. Our flight path marker works very much like the Tomcat's TVSI (talking VSI), commonly known as the RIO, except it provides a visual presentation of glideslope and vertical speed. It was just me and the ball. Contrary to popular belief, A-7 pilots fly the ball and reference the HUD, not the other way around.

(See "Warning Signs of HUD Dependency in the Corsair," Approach, February 1988 — Ed.)

Single-seaters, you know what I'm saying. For you multiplacers, try a little mental exercise. Leave your favorite B/N or RIO in the ready room, or pretend he is still asleep after such an exciting mission. Picture flying a rails ACLS Mode II to three-quarters of a mile. Now, look out at that ball sitting right between the green lights. You're right on centerline. You're pumped.

Tonight's your night for that elusive OK. The ball crowns just a little. Before you even get a chance to make the power reduction for the rising ball, Paddles advises not to go any lower. You get a funny feeling that something isn't quite right.

After a few "Don't settle" and "Power" calls, you decide to trust the LSOs because they're basically a good bunch of guys; and besides, they don't want to get involved in a mishap investigation any more than you — or your survivors.

Just a Typical Day?

By Lt. Victor G. Warriner

IT was another typical day in the work-up cycle of a fleet squadron. The mission was night FCLPs at our local outlying field. It was the same mission as the night before and the five nights before that. Everyone was comfortable with the established routine, and operations had been smooth. This night our smooth routine would take on a new light.

It is a naval aviation axiom that when the conduct of a mission becomes routine, the first added variable leads to trouble.

As our allotted FCLP period was nearing completion, our squadron LSOs were joined by our sister squadron LSO who

But the ball starts climbing. How are you going to fly your OK with a high ball? You know those guys on the platform will just say you overcontrolled their power calls. You've got less than 10 seconds to decide whether you should believe the ball, which has never been wrong, and go for your five-pointer, or listen to the LSO who is "only human." What are you going to do?

Despite any tongue-in-cheek innuendoes directed at the boys in the white float coats and funny looking sun specs,

we all know they do their job well. No matter what it looks like to you, they are not out there as judges. They are there as the final safety link. You don't get waved off because your pass is terrible, but because you are going to break an airplane or kill someone if you try to land from where you are.

This is a true story. It could have easily been any one of you, and if it happened once, it could happen again. I know what I will do if it happens again to me in the future.

Incidentally, if you are wondering what they found wrong with the lens, the answer is... nothing. No repairs were made, aside from turning it off. It worked fine the next day. When I got into my rack that night, scenes from the movie "Gremlins" kept running through my brain. I got up, turned the light on, checked the drawers and locked the doors before I RTB'd (returned to bed), and drifted off to sleep. Thanks, paddles. Sorry, Beth, you'll have to get rich some other way.

Lt. Ganse flies A-7Es with VA-94.

had the next scheduled period. Our LSOs had not yet bounced and asked if the other LSO would mind waving them. This was not routine, but it was readily agreed upon and briefed.

What had been a simple operation had now evolved into a night FCLP period with one LSO on station controlling five aircraft in the pattern, two of which were from a different squadron. When a sixth aircraft arrived overhead, an already formidable situation degenerated to near catastrophe.

While entering the break, the sixth aircraft's pilot inadvertently placed his master exterior light switch in the "off" position, extinguishing all exterior lights and both anti-collision lights. The aircraft was now invisible for all practical purposes. Of course, the pilot was unaware of his lighting configuration, and to make matters worse, became preoccupied with his transition to the landing configuration and significantly closed his interval, now off the 180. Aware of first pass performance, Dash 6 maintained a dedicated instrument scan through the 90, and occasionally looked to his left for the lens. If he had looked to the right, he would have discovered his interval: Dash 5 now turning final from a slightly deeper 90. The aircraft on final could not see the still-midnight Dash 6, who, in turn, had apparently lost sight of his interval during his transition stage. Consequently, neither aircraft was aware of their proximity to one another.

At this point, the tower "spotted" the midnight aircraft and immediately called, "Lights at the 90!" As Dash 6's lights came on, separation was less than 100 feet, and both aircraft took evasive action, narrowly averting disaster.

Light switchology is not a new problem. This scenario, while centered on exterior lighting, does bear out other miscues at the root of the problem.

First, the routine evolution had become a somewhat unusual exercise with several pattern aircraft. It placed exceptional demands on the LSO.

Second, had the tower maintained a continuing count of the aircraft in the pattern, the sixth aircraft's midnight status would have been recognized and corrected much sooner than approaching the 90.

Third, aircraft in the pattern could have noticed there was a "hole" in the pattern and alerted the tower or LSO. At the very least, if enough aircraft had called for downwind as a result of not seeing their interval, Tower undoubtedly would have been alerted to the irregularity.

And lastly, granted that the LSO had an excessive workload, he still had control of the pattern and it was his responsibility to ensure proper separation or turn the pattern over to the tower.

The one bright side to this near midair is that it brings to light (pun fully intended) the ever-present dangers of a mission common to carrier aviation.

The two most hazardous times in the night-landing pattern involve aircraft interval. The first is just after a touch-and-go, and the other is setting interval in the break.

Of the two, the overhead break presents the greatest potential for a mishap. The greater potential exists as a result of several variables, two of which are particularly noteworthy.

First, large differences in aircraft speeds and configurations within the pattern demand proper interval for a safe pattern. Also, the pure dynamics of a night break involving deceleration and multiple configuration changes will result in an increased pilot workload and a scan more internal than external. When setting and maintaining interval, such factors must be routinely considered.

These innate hazards, their deadly potential and the factors unique to this incident must be recognized not only by all aircrew, but also by cognizant ground personnel, such as tower operators and the LSO. In our case, only a late call by Tower and plain luck averted a truly spectacular light show on final.

Lt. Warriner is an S-3 pilot with VS-22. He is the squadron NATOPS officer and an LSO.

Headwork

By Lt. John Shattuck



Peter B. Morely

ASK any 100 aviators what "headwork" means and you will probably receive 100 different answers. These answers will have a common thread: staying alive and bringing your jet back in one piece.

Headwork was introduced back in FAM-1 while I was flying the T-34. Since that time, it was a graded item, solo or not, in every syllabus hop through the final sortie in each pilot's FRS training. The box was always checked.

The broad spectrum of items that can be slipped into this category range from attempting a marginal VFR rendezvous to breaking over and landing on the wrong runway. This topic covers a situation that could have ended my advanced training in the training command and ultimately my career as a pilot. My headwork error takes us back to carrier qualifications with the TA-4J.

As with most detachments, the operating area was unfamiliar to each student naval aviator (SNA). The area was 140 nm west of North Island. Our det was based in sunny El Centro, so the trek to the ship was not the normal Key West-to-the-Gulf of Mexico jaunt.

The launches departed every hour with the divisions disappearing over the desert horizon. Our flight had the last go of the day. We briefed, walked, and rendezvoused like we had been doing it for years. The anticipation was a killer as we waited for the Boss to call us down out of the stack with that single word that takes a solid fingertip formation and turns it into a nightmare: Charlie. Our Charlie time found us below max trap as we updated our low state every 15 minutes. The time finally arrived and we approached the initial in the standard right echelon. Weather was marginal Case II at best, but workable. The pattern was saturated with eight jets all trying to make their way toward the 180 position.

Unfortunately, the only thing on my mind was keeping the ball on the lens, and not my fuel state. My touch-and-go was about as expected for a first attempt; I went off the angle, trying to pick out my interval which was three nm ahead of the ship, heading upwind. The tower was juggling aircraft and fuel states like a clown at a circus. I seemed to be the biggest concern at the time. Approaching the 180 for my second try, I was ordered to put my hook down. It was at that point that someone let the snakes out of my map case.

I came around only to be waved off for a fouled deck. My next instructions were to turn downwind and cut my buddies out of the pattern. Now my fuel state was definitely on my mind and my next attempt in getting aboard drove me high, in close at the ramp, and I bolted. The Boss was really talking now, as I was directed to bingo 300 pounds below the new calculated bingo fuel!

The climb-out and level-off went okay, and I was well on my way, with the snakes once again stowed. Switching from Departure to Beaver, I noticed another Skyhawk joining on my starboard side showing every intention of taking the lead, which I gave him after he identified himself as a lead-safe assigned to get me on deck. I felt like the world had been lifted from my shoulders, and my thoughts turned to getting on the next day's flight schedule.

Night had fallen with towering cumulus highlighted by the pink horizon. The weather was anything but ideal for a bingo profile: full stop at a strange field. Just as I thought about the possibility of a wet runway, hook down, full stop, my lead started to penetrate. I was frantic! We were still more than 50 nm from North Island and my fuel state was about 100 pounds below my bingo fuel figure. My repeated efforts to communicate with the lead failed since he had switched off frequency. How did I miss the frequency switch? Seconds later, Beaver was calling the lead to advise him that we were entering the TCA without clearance. I answered that my lead was off frequency, and they came back with a call on 243.0. The TCA was the least of my worries.

Once we were all up on a common frequency, the problem seemed solved until the lead accepted a vector that took us back 25 nm to the west. I couldn't stand it anymore. I had visions of Grampaw Pettibone hitting me on the head with a NATOPS manual.

I broke off from my fleet-seasoned lead-safe and squawked emergency. The result was an unhappy set of San Diego controllers, but one happy SNA as I rolled into the line with 200 pounds of fuel remaining.

After I climbed down from my jet, I watched as my lead came into the break 15 minutes after my full stop. Our debrief was quick and dirty. He told me never to leave my lead without his consent, and then handed me a phone number the tower gave him to call with an explanation of why we penetrated without clearance. I gave the phone number right back to him, the only thing I had done right all day.

When your jet needs fuel and you're letting another force drive you into logging one more takeoff than landing, the best words that come to mind are "headwork disaster." ▶

Lt. Shattuck is an A-6 pilot with VA-95, and is the squadron assistant safety officer. He is also an LSO.

"In Sickness and in Health"

By Lt. James R. Brown

THIS story is not about heroism. It does not begin with "There I was. . . It is about how one person placed his health and job in jeopardy.

The squadron was joining the carrier in August for a two-month NORPAC deployment. Three days before the fly-on, this semi-wet-behind-the-ears NFO caught a cold. He saw the doc and was able to make the fly-on without a hitch. He figured that if he was going to be miserable he might as well be miserable in the air — no sense getting stuck with the duty. The symptoms finally cleared, and he was not expecting another cold for about six months.

Guess again. The next one hit one month later and was more difficult to deal with. He grounded himself and sure enough, guess whose name was on the schedule for a fine 16 hours of desk work? All that he wanted to do was crawl into bed and rest. The duty was enough motivation to get back into the air. Since he had not seen a flight surgeon to ground himself, he pronounced himself fit to fly. The flights were uneventful, and slowly the symptoms began to clear.

Two weeks later, four days of nonstop flying started. You guessed it — hit with another, even nastier cold. Yes, he flew, and four days later he found himself talking to medical and being administered antibiotics for bronchitis. But the fly-off was four days away, and the motivated B/N was bound and determined to make it. He did, and had an uneventful return home.

One month later, another cold. It was Thanksgiving, so there were a few days of rest and home. Christmas came bearing an extra gift and once again a little rest, so he thought he was set. The coup de grace leaped upon him in January. He was so frustrated and tired of being sick that when the January cold hit, he went to see a doctor. What he was about to learn would result in a significant scare.

The doctor ordered a chest X-ray, and it was promptly delivered to his office. He asked how long the aviator had been smoking, and the shocked aviator's reply was that he had never smoked in his life. The doctor listened to a quick and complete history of the events leading up to this meeting. The doctor began to explain that a stay at the hospital might be in order. What had this lad done to himself?

He had an advanced stage of bronchitis and was displaying signs of malnutrition, a result

of battling an upper respiratory infection for five months. The NFO talked him out of the hospital visit. A heavy dosage of drugs was prescribed along with visits to the doctor every other day. As the very sick and grounded aviator began to dress, the doctor turned to him and mentioned that the grounding could be for a very long time. Had this affliction progressed any further, he would have been grounded forever. Finally the seriousness sank in.

The doctor's had one last question as the sky warrior walked out. What was going to happen when he returned to his squadron with the grounding chit? "Probably stuck with the duty," he replied. The doc handed him another chit prescribing SIQ (sick in quarters). Rest was a requirement.

After two weeks of follow-up visits he was returned to a conditional up status. The condition was an agreement that a doctor would be seen every week for the next four to six weeks to ensure that another episode was not brewing. All ended well.

Now, you are wondering what this experience has taught you that you did not already know.

The point is that this aviator's body was trying to tell him something was wrong. He just wasn't listening. He knew from experience how many colds a year to expect: maybe one or two, not six. Enthusiasm to fly (and avoid the duty) can interfere with good judgment. The flight surgeon is around to keep you up, not ground you.

If you are thinking about flying while sick, see the flight surgeon. He might prevent something that could be serious.

Operations officers, when one of your aviators wants to take a day off from flying without seeing a flight surgeon, go ahead and be a nice guy and order him to see one. Rest may still be in order. Standing the duty while sick is unavoidable during extended flight operations. However, COs, XOs and senior watch officers should seriously consider limiting an infectious person's contact with the healthy ranks.

Since aviators are probably more stubborn than a mule on a workday when it comes to seeing a flight surgeon, sometimes you have to park your pride and do the smart thing. So, the next time you feel a snuffle coming on, take the time to consult a couple of experts: yourself and a flight surgeon. You never know what you might learn.

Lt. Brown is an A-6E bombardier navigator for VA-196, NAS Whidbey Island, Wash.





From left to right:
Lt. Don Mays
AT2 Brant Christianson
Lt. Brian Yetka
LCdr. John Crosby

LCdr. John Crosby
Lt. Don Mays
Lt. Brian Yetka
AT2 Brant Christianson
VAW-127

Seabat 602, an E-2C Hawkeye, launched from *USS Coral Sea* (CV-43) for a functional check flight. Minutes later, AT2 Christianson (flight technician) noticed a bright flash and then flames directly over his head. He quickly reached into the overhead storage for his oxygen mask but found the mask soaked with hydraulic fluid. Unstrapping, he moved into the center seat and released the portable fire extinguisher.

Lt. Yetka (mission commander), LCdr. Crosby (pilot) and Lt. Mays (copilot) initiated NATOPS procedures for fire of unknown origin, followed by smoke and fume elimination, and turned toward the ship.

AT2 Christianson put out the fire with the fire extinguisher, but heavy smoke and atomized hydraulic fluid filled the CIC compartment. Lt. Yetka removed the emergency ditching hatch. Although smoke and fumes were reduced, hydraulic fluid continued to spray from the overhead. As all four crewmen prepared for bailout, AT2 Christianson and Lt. Yetka shared an oxygen mask until it, too, became covered with hydraulic fluid. A successful arrested landing was made, and the aircraft was shut down in the wires.

Postflight inspection revealed a chafed wire had arced to a pressurized hydraulic line, puncturing the line and igniting the fluid. The quick action and coordinated efforts of the crew not only saved lives, but also prevented major structural damage and loss of the aircraft in a rapidly deteriorating situation.

BRAVO ZULU

Lt. Stephen C. Bos VFA-113

Lt. Bos launched on an air combat training mission from NAS Fallon. Approximately 60 miles from the field, while maneuvering his aircraft in a full afterburner, nose-high turn, Lt. Bos saw the left engine fire warning light illuminate, followed by aural warnings. The right engine fire light then illuminated, followed by the aural warnings. Without hesitation, he lowered his nose, leveled his wings, and deselected afterburner. His wingman reported a large yellow plume of flame coming from between the exhaust nozzles.

Lt. Bos pressed the left engine fire warning light and fire extinguisher ready light while turning toward the field and lowering his tailhook. The right light went out within 10 seconds, followed by the left light 25 seconds later. His wingman joined and reported all external signs of fire were gone, except for black burn marks in the tail area.

Lt. Bos declared an emergency and configured his F/A-18 for a half-flaps, single-engine, straight-in approach. Noting good hydraulic pressure in all systems, he raised the tailhook and made a full-stop landing.

Drawing on previous in-depth engine fire training, Lt. Bos promptly and correctly ascertained that the left fire warning system had activated first, activating the extinguishing system and shutting down the left engine. His cool, proper reaction to a serious compound emergency saved the aircraft and significantly reduced the fire damage. ▶

41



Lt. Stephen C. Bos



42

Left to right:
Ens. Jeffrey W. Blackmer,
Capt. Carl J. Jenkins

Capt. Carl J. Jenkins, USMC
Ens. Jeffrey W. Blackmer
VT-2

During a T-34C precision aerobatics flight 20 miles northeast of NAS Whiting Field, Capt. Jenkins told his student, Ens. Blackmer, to execute an approach turn stall maneuver. Ens. Blackmer entered the maneuver at 7,500 feet and when maximum power was applied for recovery, the engine suffered a catastrophic failure. All power was lost and forward visibility was obscured by oil. Capt. Jenkins took control of the aircraft and immediately executed high-altitude power-loss procedures.

With no airfield within gliding distance and over a heavily forested area, Capt. Jenkins selected the only available landing site, a 1,500-foot-long pasture. He maneuvered the aircraft to a high-key position over the field and made a flawless gear-up, flaps-down, dead-stick landing into the field, which was ringed by tall pine trees. Capt. Jenkins slipped the T-34C over the tall pines to a touchdown 500 feet down the field, slid 800 feet, and came to rest 200 feet short of the trees at the end of the field.

The excitement was not over as the two crewmen exited their aircraft. They were confronted by an irate bull upset over having his herd disturbed. Another T-34C provided CAP support and neutralized the threat, thus allowing the two aviators to escape.

A postflight investigation determined that the engine failed because of a compressor turbine blade failing in high cycle fatigue. This blade sheared the remaining compressor turbine blades which then destroyed the power turbine.



Ltjg. James B. Clark

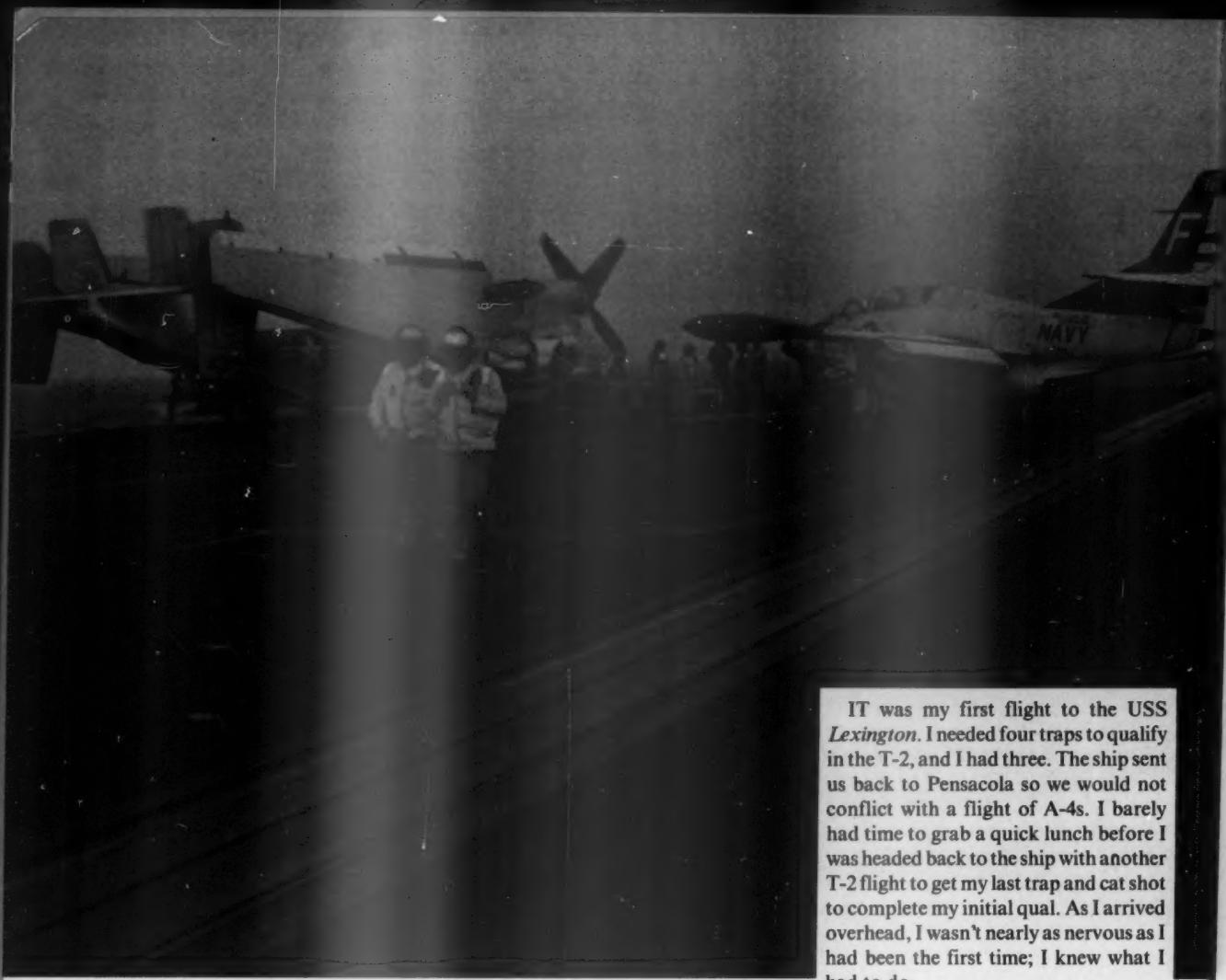
43

**Ltjg. James B. Clark II
VT-23**

During initial T-2C carrier qualifications aboard USS *Lexington* (AVT-16), Ltjg. Clark was spotted on the No. 1 catapult for launch. Following a normal run-up, he saluted the catapult officer, indicating his readiness for launch. Upon catapult firing, the port-side bridle loop separated from the aircraft bridle hook, slewing the T-2 30 degrees to the left and causing the starboard bridle loop to disengage from the aircraft.

Ltjg. Clark immediately reduced power and applied maximum braking, bringing the aircraft to a halt two-thirds down the catapult track, less than 10 feet from a turning C-2 with 18 people on board.

Ltjg. Clark's instantaneous and correct response to this extremely time-critical emergency saved his aircraft and, very probably, a C-2 with a full passenger load.



My First CQ

By Ltjg. James B. Clark II

IT was my first flight to the USS Lexington. I needed four traps to qualify in the T-2, and I had three. The ship sent us back to Pensacola so we would not conflict with a flight of A-4s. I barely had time to grab a quick lunch before I was headed back to the ship with another T-2 flight to get my last trap and cat shot to complete my initial qual. As I arrived overhead, I wasn't nearly as nervous as I had been the first time; I knew what I had to do.

I made one touch-and-go, then I put my hook down and made that last trap. Moving up to the catapult, I felt very good about my accomplishment.

With the tiller bar connected, I was directed to the cat. As the aircraft went over the shuttle, I thought, "Do not break the hold back. This is your last cat shot." When the bridle was hooked up, I was directed to release my brakes as tension was taken. The yellow shirt handed me off to the cat officer who signalled for engine run-ups. I advanced the power, wiped out the cockpit, and checked the instruments. Satisfied, I saluted the cat officer and braced myself

I heard the Boss call, "Brakes, brakes, brakes!" after I had already applied them.

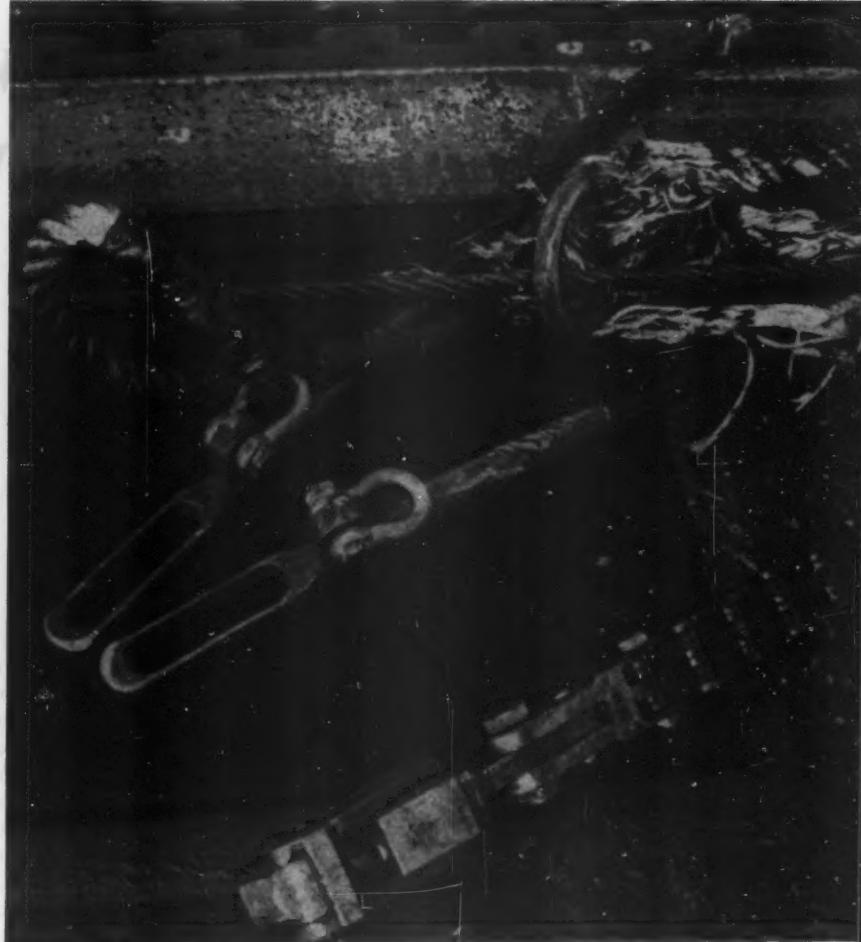
for the shot.

The cat fired, pushing me back into the seat — just like the previous three shots — then the push disappeared. I knew something was wrong. Time seemed to slow down. The T-2's nose bounced up from the force of the shuttle hitting the nosewheel. I saw the shuttle continue up the cat track as the plane's nose came down left of the cat track. I applied both brakes as hard as I could, and tried to pull back the power. I couldn't. I was still holding onto the cat grip; I released it and pulled the power to idle. The plane was beginning to slow down. I thought I was going to stop before going off the bow, so I did not blow the canopy and eject. The Buckeye kept veering to the left.

Then, I saw a turning C-2 Greyhound on the port side of the *Lex*. When I saluted the cat officer, the C-2 was behind him, chocked and chained, but, as my full attention was on the cat officer, I never saw the C-2. In our CQ briefs, we were told to never take our eyes off the yellow shirt director. At this point, I thought I was going to avoid the C-2 and stop before going off the bow. (I later found out the Greyhound had just been refueled and had 18 people on board.)

The T-2 kept veering to the left, then accelerated in an arcing motion, directly toward the C-2's turning propeller. The T-2's right tire had left the non-skid surface and gone onto the slippery steel cat track. I still thought I was going to stop in time, even though I was heading directly toward the rotating propeller. The Buckeye finally came to a halt, barely 10 feet from the C-2's starboard prop arc, after the arcing motion ceased, when the right tire returned to the non-skid surface.

My legs were rubbery. My mouth was dry and I was breathing heavily. I



looked at the engine instruments; they were normal. Then I realized I had not heard anyone on the radio since being told by the Air Boss to meet my lead at 3,500. (Later, when reviewing the tape, I heard the Boss call, "Brakes, brakes, brakes!" after I had already applied them.) The cat officer was still signalling hold brakes, but my legs felt like they were going to fall off. I desperately

needed to release the brakes and I asked the Boss if I could. He gave me permission, and, boy, was I glad to hear someone else's voice. I needed to sit down, but not in this ejection seat. ▶

Ltjg. Clark was awarded the Navy Achievement Medal for successfully stopping his T-2, thereby saving two aircraft from damage and many personnel from injury. — Ed.

Ltjg. Clark entered the Navy in 1977 and served aboard the *Enterprise*. He was commissioned through the ROTC program in 1986. He is continuing his undergraduate pilot training with VT-21; he was assigned to VT-23 at the time of this incident.

... The ship has taken a sudden roll, taking our intrepid nugget by surprise, and he's now "Slip Sliding Away" down the back of the Tomcat heading for the blackness below...

Slip Sliding Away, Slip Sliding Away

By Lt. Jim Benham



THE words to a popular song are also symbolic of the feeling that has come over you as you realize the moment you've been dreading has arrived. You are a typical first-tour nugget enjoying the thrills of carrier life aboard *USS Boat*. Your buddies are getting set for the evening festivities. The gunner is in the back firing up the popcorn machine while the SDO, as the XO's hose team leader, is at the duty desk putting out fires. Yes, everything is as it should be, except you've got to preflight and man-up on the darkest night in the history of the world! Walking out into the darkness, you chuckle to yourself at the attack pukes who are using a clear visor.

"I'm too cool for that," you think.

Anticipating that pitch black night trap, you're suddenly jarred to reality by an A-6 going into tension on Cat 3.

"I hate manning up back here. Better put the visor down. So, that's why they always change their visor for night hops! Nutz! These cheap green flashlights never work. Oh well, the deck is well lighted, and my P/C will surely have a light if I need it.Oops! It really is hard to see all these cotton pickin' tie-down chains with the dark visor down. Everything looks good in the intakes, no hydraulic fluid or loose fasteners; just wish the tail of this bird weren't so far over water because I'd like to check out the emergency flight hydraulic module. I'll check out the bleed exit doors and then the cockpit before I pull the pins on the seat. The top of this bird is almost as greasy as the sliders in ward room 1; guess all the salt spray doesn't

help much. Hmmm! Looks like a loose califax back there by the speeeeeee-!"

The ship has taken a sudden roll, taking our intrepid nugget by surprise, and he's now "Slip Sliding Away" down the back of his Tomcat heading for the blackness below. Instinctively reaching for anything to grab onto, he just misses the ALR-45 antenna but does hit his arm on the personnel safety net support. The 60-foot fall seems to last minutes but is quickly forgotten by the severity of the uncontrolled water impact.

"Wow! I didn't think 50-degree water would be this cold! Wish I'd worn a poopy suit and liner. Get away from the ship Whew! These FLU-8s really work! No way I'd be able to pull that beaded toggle with this arm. I wonder why the sponson watch didn't call away man overboard? No problem, I'll just fire off a pen flare from the right pocket of

my...? Well, maybe it's in the other..."

A large wave hits and washes away the unsecured pen flare gun.

"Well, the strobe will get their attention! Wish I hadn't taken the Velcro off my helmet to show off the great tape job; I could sure use my good arm to help stay afloat! Really hope the PRs checked the batteries. Hey, there's the helo! I'll never make fun of their dinky little ready room again. OK, let the cable touch the water first then hook up the "D" ring and Arrgh!! This torso is killing my —."

"Ugh, oh, ah XO! No I'm not sleeping, really. I'm just trying to get something out of my eye."

It was all a bad dream. The XO is still keeping the SDO busy policing the ready room and there's still an hour before the night AIC brief. I think I'll go check out my flight gear.

Personal flight gear preflight:

- Flashlight (batteries and red filter installed for night ops).
- Strobe batteries (should flash 50 +/- times in two minutes).
- Clear visor at night.
- Helmet reflective tape (100 percent coverage white and up to 30 square inches of light colored tape may be used).
- Velcro on helmet visor.
- Proper torso fit (should hang in it to check fit).
- Liner/poopy suit use.
- Are all items in your SV-2 secured with nylon line?
- Where are your survival pen flares, day-night distress signals, strobe and shroud cutter located? Can you find them with your eyes closed?
- Are all items in your SV-2 survival vest secured with shroud lines? 

Lt. Benham is assigned to VF-114, an F-14 squadron at NAS Maramar, Calif.

What a Day!

By CWO2 D. Herron

47

WELL, it's 0600 and flight ops start at 0800, so I'd better get moving. Just enough time to dash to the ready room and throw down some coffee before heading up to the roof. Ouch! Slammed my shin against the kneeknocker. As I hobble down the passageway, I can see this is going to be a great day.

Now I'm starting to get into gear after a cup of coffee. Grabbing my vest and cranial, I break out into the sunshine of the flight deck. Whoa! That tractor driver sure is going fast. Hope he sees that chief. Nope, he didn't; results: one chief with a broken leg. And there goes another tractor with the driver hanging his leg out the side. Before I can flag him down, he falls out, and the tractor runs over his leg, breaking it. What a day. Flight ops haven't even begun yet.

Flight ops begin, and everything runs pretty smoothly until the first recovery. An A-7 comes in mighty low and hits the round down, shedding parts as it slides down the angle before falling into the water. The pilot ejects just in time and is recovered with only minor injuries. What a day!

Next an F-4 blows both mainmounts on a bolter and then can't maintain flying speed. The pilot ejects, but the RIO goes down with the jet.

Then I see something that just doesn't look right, an F-4 taxiing on the bow with a plane captain walking backwards in front of one of the mainmounts. I finally realize he's checking the tire for cuts. He trips, falls, and, before anyone can react, gets run over by the mainmount. The injury is fatal.

It's past noon now and, certainly, we've had our "excitement" for the day. All of a sudden, there's a commotion near the "Electric-6." An EA-6B was doing a crossbleed start when an avionics tech exited the nosewheel well where he had keyed the K Y-28 and stepped in front of the engine at high power. He was immediately sucked into the intake and killed.

The sun finally sets, it's 2000 and all the aircraft have come home to roost. Time to leave the roof, take a shower and hit the rack. I stay clear of those darned kneeknockers. Ouch, hit my head stepping too high over the kneeknocker.

An eventful day? Actually, although these events are all true (including my bruised shin), they spanned my career of 16 years on the flight deck.

CWO2 Herron is assigned to VA-165.

Nobody's Perfect

By Lt. Randy Mahr



"THOSE guys just flew themselves into the water." How many times have we heard this from the safety officer? That's not going to be me, Jack. I take my copilot duties seriously. I never fixate on any one problem. Don't I always catch the inadvertent dump switch left on or the boards-in approach? I know how to keep my scan going.

Always.

So, then, how did I find myself at five miles behind the boat, rapidly approaching zero lift? Take it from me, it was easy. It wasn't even a dark and stormy night. In fact, it was a pinky recovery. No, not even a single-engine, no-flap, RAT-only, NORDO approach. We had an up-and-up jet.

But, I'm getting ahead of myself.

It had been a simple SST hop. I was flying with an experienced pilot who had more traps than I had total flight hours. We're talking cockpit experience here. Oh, did I mention that he was a fighter pilot for most of his career? He didn't have a lot of A-6 time, but he still flew the Intruder like he was born in the left seat. He told me he never did quite get used to the scan, though. The A-6 has an ADI for its primary attitude reference. This is an HDD (Head Down Display) that also shows heading, AOA and VSI. Neat gadget. The only trick is learning to read attitude. It takes a little time to get used to.

Anyway, there we were at six miles, dirty, slowing to on-speed. He said, "Something doesn't look right. Is the platform dumping?" I cross-checked attitude sources; they agreed. Something still wasn't right. I checked again. Approach came up and asked us to report needles.

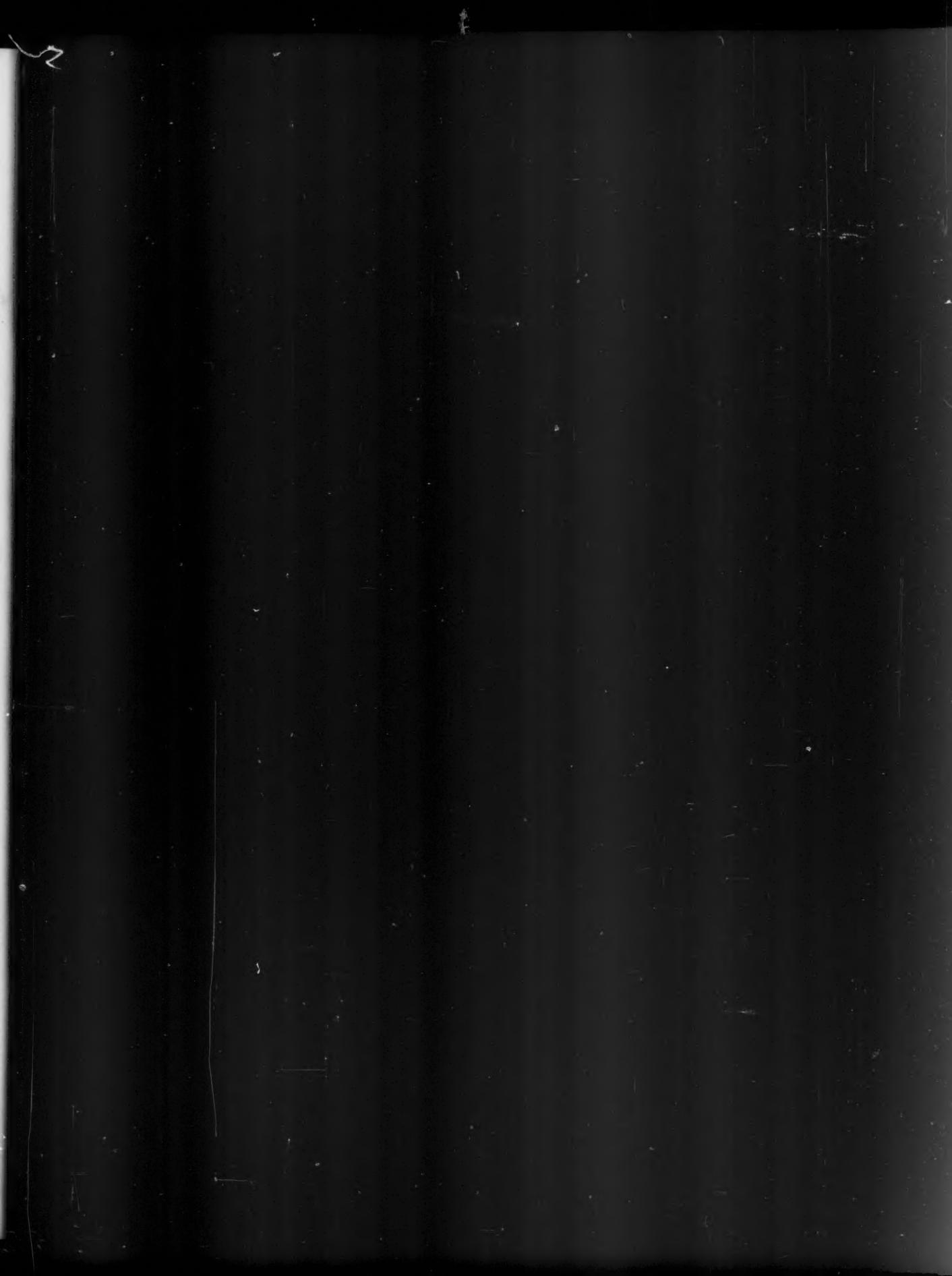
"On and on," I responded. One more time, I rechecked the attitude switch. Finally, I went back to my pre-landing checklist like a good copilot. Hook, wheels, flaps, slats, stab . . . no warning lights and 122 knots for the on-speed check. 122 knots!

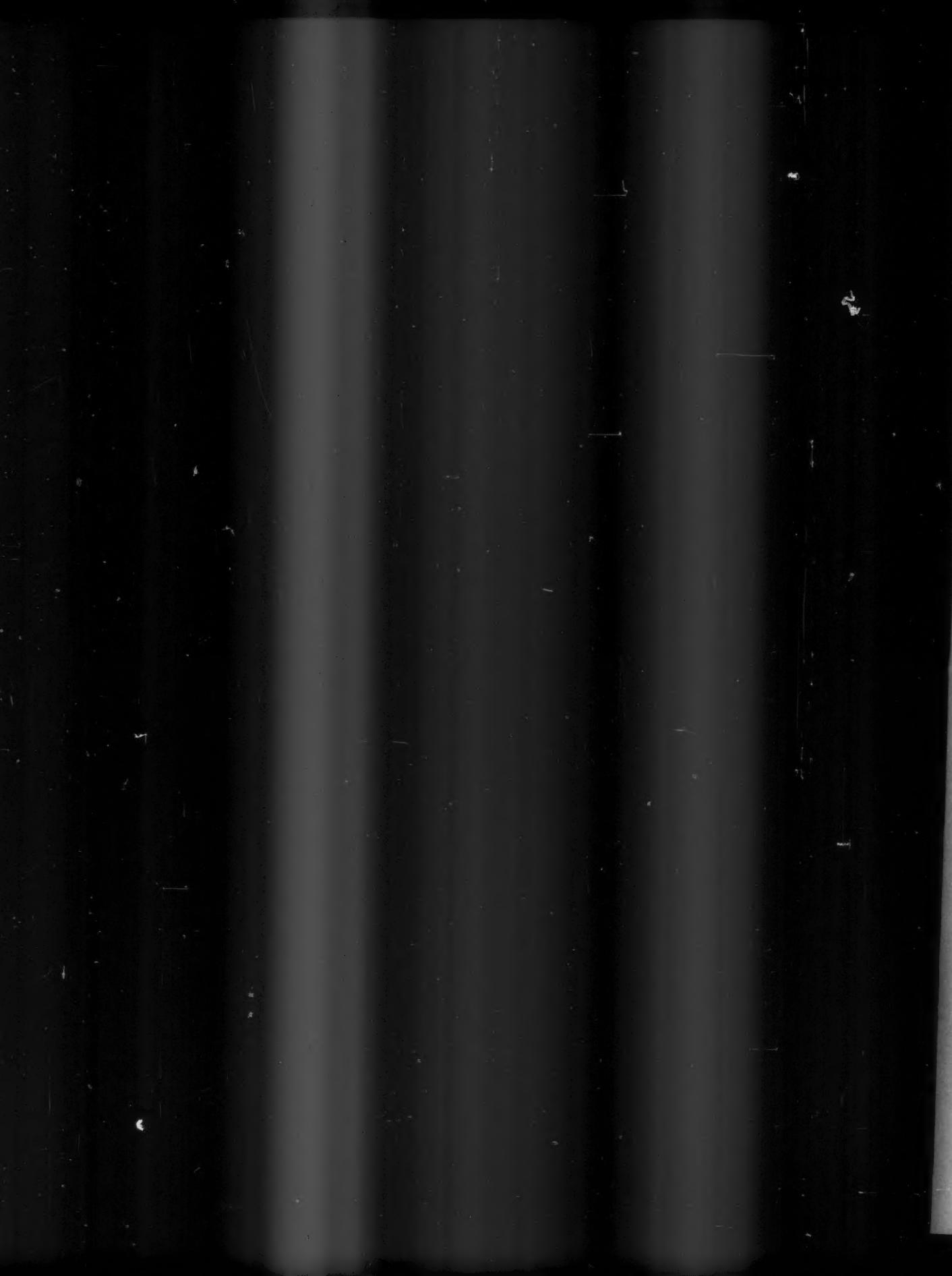
"Boards in, accelerate, we're slow," I called. I had seen 104 knots on the airspeed indicator. The AOA indexers still showed us full fast.

Our mighty Intruder powered up, and we ended the flight with an OK 3-wire, of course; but I was more than a little shaken. In the cool fluorescent light of the ready room, NATOPS said our stall speed should have been 98 knots. I didn't know that. I just knew we were slow and still decelerating. The pilot was watching his needles and AOA. I was looking at the attitude "problem." The problem wasn't the ADI, which was correctly showing our nose-high attitude. The *real* problem wasn't even the stuck AOA probe. The real problem was a stuck scan. Mine.

Yeah, you won't hear about me flying into the water. I take my copilot job seriously. I never fixate on any one problem. Never . . . anymore. ■

Lt. Mahr is a B/N with VA-95, currently deployed in USS *Enterprise* (CVN-65). He is the squadron personnel officer.





Pattern Management

By Lt. Robert R. Smith

Peter B. Mersky

IT was a particularly dark, overcast night with low, scattered-to-broken clouds. I wondered if there was a chance we could be cancelled due to weather. Then I realized we had only four nights before we left for cruise, and, as usual, we were well behind the number of field carrier landings we needed on each pilot. We would "do what it takes" to get the airplanes into the FCLP pattern so our pilots could get some much-needed bounce work.

As one of our two squadron LSOs, I always drove out to the outlying field to get everything set up before our planes came into the pattern. Because we fly "quiet" E-2C Hawkeyes, we get the late night or early morning period at the OLF. As I arrived at the field, I noticed the A-6s and F-14s were still working the pattern. I talked with their LSOs, and we decided to share the pattern for the first 45 minutes. Like us, they were behind in their training and trying to squeeze out a few more bounces while they had the assets available. We had two aircraft coming out; there were already two A-6s and one F-14 in the pattern. With our two, we would have a full pattern. With the low ceiling and the light drizzle causing marginal visibility, I was a little concerned.

We got a call from Approach Control telling us two Hawkeyes were inbound, about five minutes apart. After a couple of minutes, we saw the familiar upper rotator of the Hummer low under the overcast.

The Tomcat Paddles calls, "601, Paddles, we have you in sight. Two Intruders and one Tomcat in the pattern. You are cleared in. Your interval is lifting."



"Roger, Paddles, tally on our interval." After another couple of minutes, we see the other Hummer low on the horizon and we clear him in. I was not sure where his interval was because it was getting more difficult to see the upwind aircraft. One of the other LSOs seemed to be sure, so he called, "602, Paddles, your interval is an A-6 upwind. Cleared to break with interval."

Due to the number of aircraft in the

pattern and the poor visibility, I could only see three of the five aircraft. I was getting quite concerned, but none of the pilots complained about the poor visibility or not being able to find their interval, so I figured they could see their own interval. Wrong!

The final Hummer broke on the Tomcat as his interval. He never saw the A-6 in front of him. Because of the differing approach speeds, the Intruder quickly closed on the E-2. Our first view of the impending disaster was two aircraft very close together, approaching final. The controlling LSO called, "Hummer on the ball, wave off, wave off!" The Intruder pilot had not seen the E-2 in front of him until the emphatic wave-off call. When he heard the call, the Intruder pilot leveled his wings and proceeded further downwind. The E-2 climbed straight ahead. The two planes cleared each other with no problems, but the potential for disaster hit home hard. We full stopped the two Hawkeyes and waited until the other airplanes had completed their work before we started our bounce period.

We learned many lessons. Working a full pattern in marginal weather and with different aircraft types was a mistake. The pressure of being behind in getting our pilots ready for the boat influenced our thinking. Also, confusion in the LSO shack added to our problems. We had three LSOs waving the five aircraft, switching the pickle from LSO to LSO for each approach. We needed to have one LSO wave, and the others watch the pattern. When we couldn't see all the aircraft in the pattern, we should have reduced the number. The lessons were learned at a relatively cheap cost.

Lt. Smith is the aviation safety officer for VAW-122 and is the squadron LSO. He was recently designated Carrier Airborne Plane Commander (CAPC).

Landing Checklist Complete?

By LSO School Class 1-87

John W. Williams



AT one time or another all aviators have heard of aircraft landing with gear up or in the wrong configuration. It happens to multipiloted as well as single-piloted aircraft. It makes us all say, "Why didn't he realize something wasn't right with all the back-up lights, warnings and other people watching him?" It also makes us ask where was the LSO? The following events are just a few examples of these situations:

It was a dark but clear night aboard *USS Carrier*. As one A-6 taxied out of the wires, another was visible at four miles. At three miles, the hook spotter shouted, "Gear lens set, A-6."

The LSO asked, "Good approach light?"

The spotter responded, "Affirmative, three down and locked." The aircraft proceeded to one mile, and the controlling LSO again asked if the hook spotter had seen a light; and he responded yes, but it had gone out. The A-6 called the ball and continued his

approach to a 2-wire. The LSO could not see his rollout since there were aircraft parked on elevator No. 4. As the LSO turned to the book writer to grade the pass, he heard the Air Boss say, "Foul deck, shut it down in the wires." The A-6 had landed nose gear up!

An A-6 came in for a Sierra Hotel break, gear and flaps abeam, quick checklist in the approach turn at 35 degrees AOB. The hook double-checked up for a refresher touch-and-go. There were 10 people on the platform, most just observing or enjoying the sunshine. As the TRAM-equipped A-6 crossed the ramp, three of the LSOs simultaneously yelled, "No nosewheel . . . wave him off!" By that time the Intruder was in the wires with power on. It touched down on the mainmounts with good attitude, and a normal touch-and-go was completed.

"Intruder, what are your gear indications?"

"Uh . . . three down." A barricade

engagement followed after an hour of attempting to obtain three down and locked.

During a day VFR recovery, the last aircraft down was the A-7 tanker — a perfect opportunity for a Sierra hotel break. With six LSOs on the platform, the A-7 broke at the rounddown pushing 500 KIAS. The question is whether or not he would be on speed by the groove. He was fast through the 90, and the LSO's main concern was to be sure the pilot got power back on the aircraft as he approached on speed. But, he never got on speed. No one noticed, in or out of the cockpit, that his flaps were still up. The A-7 trapped without incident, although it came within a few inches of two-blocking the arresting gear. One wonders why didn't the LSO wave this exhibition off.

During a day VFR recovery, an EA-6B rolled into the groove and received a foul deck wave-off. On his second pass (well within the wave-off window), one of the LSOs yelled, "Wave off, wave off!" No one could figure out why he had been waved off so close in until the LSO explained his towlink was down. No one had noticed it on the foul deck wave-off or even until it was almost too late.

All of these incidents have one thing in common. They all could have been avoided, and fortunately, none ended in disaster. Whatever the reasons, let's not become complacent with the attitude that "It won't happen to me." People on the deck and in the aircraft are responsible for checking for anything unusual. It's just too easy to assume that everything is set and ready to go. Part of the LSO's responsibilities are ensuring that aircraft are in the proper configuration and aircraft performance is within acceptable approach parameter limits. This does not remove responsibility from aircrews; it establishes a double-check. Let's all take an extra look and make sure our checklists are complete! □

The Dangers of a Turning Ship

By Lt. Eric Engleman

Graphics By Frank L. Smith

51

IN the day-to-day routine of carrier operations, there is always the possibility that someone will fall overboard or that a pilot or airplane will end up in the water ahead of the ship. As an A-7 Corsair pilot attached to the USS *Carl Vinson* (CVN-70) I realize that even though the chances of this happening to me are remote, I should still plan how to survive if the situation occurs. Well, I've practiced a lot of overwater ejection procedures and feel comfortable that I could get from the airplane to water in one piece, but how about afterward? There are too many stories of men overboard who ended up mysteriously disappearing after the ship went past. Could these disappearances been caused by water currents created by a turning ship as it tried to maneuver clear of the man in the water?

Not long ago, I was sitting on the hangar deck fantail of the *Vinson*, getting some sun and watching the hundreds of flying

fish that would magically emerge from an occasional wave top. Just when I thought the sun might start to improve my meager tan, the ship began a hard port turn into the wind in preparation for recovering the A-7s and A-6s that had gathered overhead.

"Time to go" I thought, knowing that this place would soon become very unsafe once the landing cycle began. As I took a last look off the fantail, I noticed the violent behavior of the sea inside of the turn of the ship passing astern. There weren't any big waves to speak of, but, I could see water falling in upon itself, with the foam disappearing below the surface. Due to the bubbles, these "roll currents" looked very much like a tornado that had been laid horizontal and put underwater. As I made my way back to my stateroom, it occurred to me that those waters could not be the best place to be for a man overboard or a pilot in his parachute. Continued

I'd seen this kind of deadly water before back in South Carolina, where I used to canoe some of the most treacherous white water rivers on the East Coast. The water I saw at the fantail that day looked a lot like that of the "class six" rapids that I would usually portage around . . . and sometimes foolishly run. Very strong eddys, whirlpool, and "hydraulics" (water curling back upon itself, usually at the base of a falls) were all places that one maneuvered his canoe around, not through! As I looked out off the fantail a few days later, I shuddered at the thought of being in that turbulent water. If a man were alongside the ship — be he a man overboard or a pilot in his parachute — would it be a good idea to turn the ship away from the man (as is the usual practice) and thus create all these deadly currents?

A large carrier like the *Vinson* displaces around 90,000 tons of water. As the ship moves straight ahead through the water, water is continually displaced — forced out of the way — by the bow in the form of waves. If, in the time it takes for the *Vinson* to move one ship's length through the water, the waves' size could be measured, the displacement or "weight" of those waves would be equal to that of the ship. On the other hand, water displaced must fall back into place as the ship passes. Because of most ships' gentle taper to the stern, this reverse process happens very smoothly until the squared off fantail where "eddy drag" is created and water rushes in to fill the low-pressure area created by the passing of the ship. The eddy effect is minimized on most ships because of the tapering of the hull all the way out of the water in front of the squared off stern. (See Figure 1).

There is a side benefit to the unlucky sailor who falls overboard, for he can drift alongside the ship as it passes by with little fear of being drawn underwater by the currents that flow back in to replace water displaced by the passing ship. The only danger lies in the man overboard being sucked into the screws if they are still propelling the ship. As long as the helm has ordered full stop, or even a reduced power setting, there will be no danger of being drawn into the screws or into the large turbulent area behind the screws.

An entirely different case exists when the rudder is put over



USS Lexington (AVT-16) in a port turn after a VA-174 Corsair pilot ejected flight

in a hard turn. As already stated, this is the accepted practice when a man goes overboard or a cold catapult shot puts an airplane or pilot in the water next to the ship. The idea is to swing the stern away from the man overboard. Is this really necessary? Does it, in fact, make conditions more dangerous, especially to an aircrewman still attached to a parachute?

When a ship turns, a large pressure difference is created between the inside and outside of the turn. When the rudder is put hard over to port and if the ship has forward momentum, the stern of the ship is forced to starboard. As the stern swings about its pivot point — about 15 percent the length of the ship aft of the bow for a ship going 30 knots — a great amount of water is displaced to the outside of the turn, creating an area of high pressure. Likewise on the inside of the turn, a low-pressure area develops. Just like air mass behavior, this area of low pressure on the inside of the turn will draw surrounding water into it. Actually, because water is virtually incompressible, it is not actually an area of low pressure, rather an area of displaced water. In any case, the result is the same: a

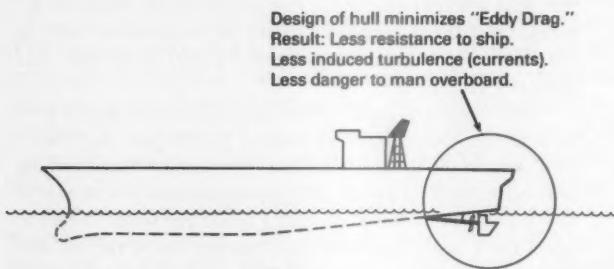


Figure 1

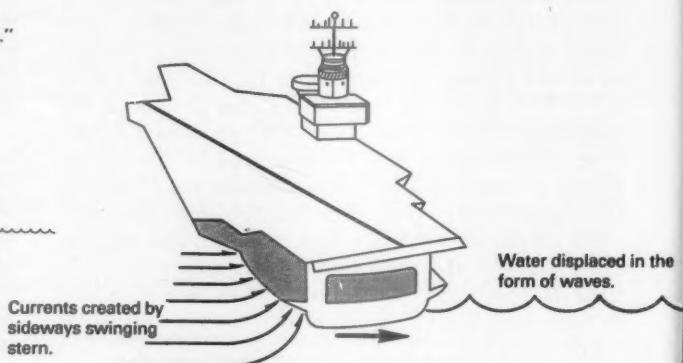


Figure 2



flight deck level. The surface may look calm, but how about underneath?

place where water currents flow inward to occupy an area created by the sideways motion of the ship.

If the ship in question is a *Nimitz*-class carrier, more than 1,000 square feet of rudder at up to 30 degrees deflection creates a dynamic pressure of over two million pounds, which forces tons of ship to move sideways, and results in tons of water being displaced in waves to the outside of the turn and as much water rushing in on the inside of the turn to take its place. (See Figure 2)

How does this effect a man in the water? To illustrate, consider an A-7 pilot sensing insufficient airspeed for flight, and ejecting as his Corsair dribbles off cat 2. As he lands just ahead of the carrier, 20 feet to port, the captain orders, "All stop and 30 degrees left rudder." The X in Figure 3 shows where the pilot hits the water and the successive positions of the ship as it passes by. Note that the pilot will be in the low-pressure area as the ship's stern swings to starboard.

Because the currents are trying to fill a void where the ship once was, the pilot will be drawn in towards the ship's wake and under as the currents plunge downward. If the pilot is tangled in his parachute, it will now only serve to drown him. There are numerous stories in naval aviation of aircrew members who successfully parachuted into the water ahead of the ship, only to be pulled to their deaths by the parachute when it got caught in the deadly currents created by the ship. Hopefully, SEAWARS will minimize, if not eliminate, this hazard.

So, is it best to continue straight ahead or to turn when a man is in the water next to the ship? If the seas are such that large waves may dash the man against the ship's side, then turning the ship so as to put space in between ship and man is the best course. If the seas are not a problem, which is usually the case, then he would seem to be safer if he could pass down either side of the ship as it coasts straight past. As I said

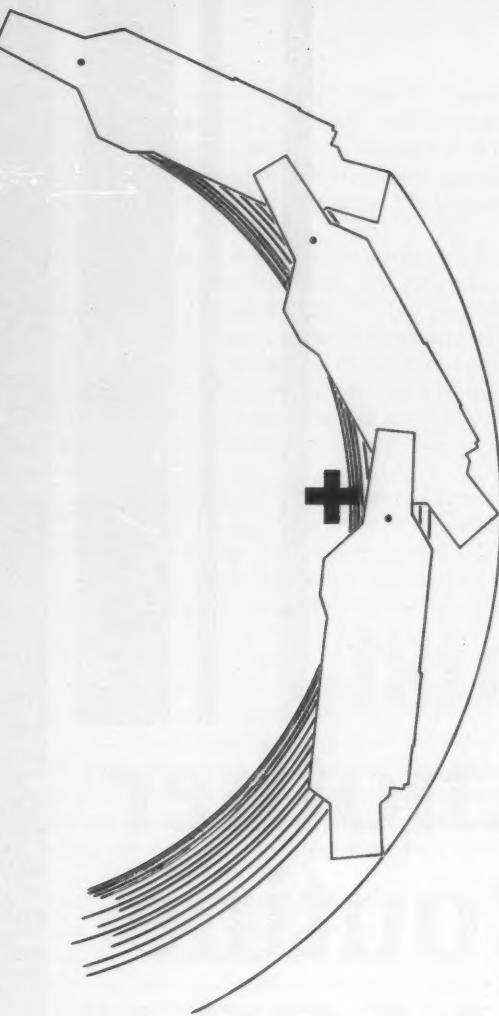


Figure 3

before, a ship on a constant course has the least resistance and hence, invokes less water disturbance than a ship in a turn. Water disturbance is a life-or-death issue for a man tangled in a parachute, or incapacitated by injury; therefore, unnecessary currents next to the ship must be minimized.

It would be wishful thinking to hope there will be no more launch or recovery mishaps or men overboard that will test this theory. We must prepare ourselves just in case and make the procedures that will keep us afloat second nature for aircrews, that means: Get rid of that parachute! I've seen the turbulent waters behind the *USS Carl Vinson* and, to be honest, I don't like their look, especially when the ship's in a turn. If I found myself alongside the carrier one dark night with shroud lines tangled around my legs, I'd rather have the captain just let her glide on past and **not** try to get out of my way. ▶

Lt. Engleman is an A-7 pilot assigned to VA-27.

Just Another Routine EMCON Alfa Launch

By LCdr. John Noulis, Jr.

THE launch began smoothly enough, for one of those dark, moonless, rainy, Case 3, EMCON Alfa launches in the North Atlantic near the Arctic Circle. The plane guard's mission was simple enough: launch, climb straight ahead, turn right, fly downwind, look for the green light on the island, pick up the glide slope on final and land back aboard the carrier after the E-2C was safely airborne. The crew briefed the flight and had the duty officer double-check with Air Ops for any changes to the mission.

On the flight deck, the winds were gusting to 45 knots, and sleet was mixed with rain. The visibility was poor — how poor



we would find out after we launched. Noting the OAT below 10 degrees with visible moisture, we enabled the engine anti-ice, in accordance with NATOPS.

Darken ship was in effect so we lost sight of the CV as we transitioned to forward flight over the angle deck. Other than losing all outside visual references as we lifted to a hover, the climbout to 300 feet was uneventful.

We began a right turn to downwind for our recovery. About halfway through the turn, a bright fireball of sparks suddenly illuminated the starboard side of the aircraft. Immediately, we rolled wings level, went to full power and checked the engine instruments. As we turned downwind with the landing checks complete, the ship was no longer where it was supposed to be.

Suddenly, it wasn't routine anymore. We circled a couple of times in the area where we thought the ship should be. It just wasn't there. Then, aware that we were past our Charlie time, we raised the gear, climbed to 1,000 feet, and broke EMCON. In this situation, our brief called for another helo on deck to come up air-to-air on the TACAN prior to a total cancellation of all EMCON. What we didn't know was that the ship wasn't receiving our calls. However, someone in the ever-vigilant E-2C heard our call, went air-to-air on the TACAN and tried unsuccessfully to contact us on the radio. This confused our situation further as when our TACAN locked on at 47 miles, we saw opening DME no matter what direction we headed.

In the goo at 1,000 feet, unable to close the ship and thinking we were locked onto a TACAN aboard the CV, the copilot said, "It looks like we can't get back there from here." It was disorienting to believe we were being blown farther and farther away. The TACAN now read 69 miles and was increasing. Of course, we were now executing all lost-comm and lost-plane procedures. The cockpit was leaking like a

sieve. We knew we had enough fuel to last till dawn, and hoped someone would find us. Finally, over the UHF we heard a real faint call from the E-2C giving us a steer to the CV. We realized that our radio wasn't transmitting properly, and they could only hear us key the mike. The leakage had evidently caused the radio problem.

Now that we had been located, given a vector to the ship and had a sweet lock on the ship's TACAN, we found ourselves to be only 13 miles from the CV. Our approach to final landing took more than 15 minutes because of the high winds (100 KIAS with a 50-knot headwind puts a crimp in your groundspeed). Needless to say, the ordeal wasn't over until we finally broke out under 200 feet and less than 1/8 mile. The LSO didn't see us until we arrived over the rounddown.

What series of events nearly led to the loss of aircrew and aircraft? In the early stages of the exercise, the EMCON launches were simple enough and executed in relatively good weather. As in any evolution, the more we practice, the better we got. The better we got, the more confident we became, and the more confident the ship became, thinking they could always recover the helo no matter what the weather. This process led to taking more than 20 minutes to break EMCON once the helo didn't make charlie time. The aircrew wasn't briefed on the course change the ship made after the E-2C launched, which eliminated any chance of DR navigation. Take any of the above ingredients or add your own: when the well-rehearsed and familiar become all too familiar, beware — it might not be just another routine EMCON Alfa launch.

By the way, subsequent investigation revealed the emergency was caused by the No. 2 engine anti-ice shorting out in the engine bellmouth. Fortunately, the engine wasn't FODed. ▀

LCdr. Noulis is a surface-warfare-qualified SH-3H pilot assigned to HS-1 as an instructor and assistant maintenance officer. He previously served with HS-11 as aircraft division officer and FCF pilot. Before entering flight training, he served in USS *Jesse L. Brown* (FF-1089) as CIC officer and navigator.

The one number always open to you is

1-800-HOT-SFTY,

the Safety Center hot line. We're ready and able to answer your safety questions, whenever they come up. Try us, can't hurt.

"FIRE, fire, fire, forward elevator No. 2!" It's 0500. Half asleep, you listen for the repeat call. "Fire, fire, fire, forward elevator No. 2!" You don't hear, "This is a drill." Oddly enough, there is no indication of the class of fire, the level the fire is on, or the frame or compartment number.

Nevertheless, the fire call over the IMC is enough to get your attention. One minute later, you hear, "General quarters, general quarters, all hands man your battle stations, up and forward on the starboard side, and down and aft on the port side." You and your roommates jump out of your racks, quickly put on your flight suits and boots, and head out of your stateroom on the 03 level for your general quarters station on the second deck.

The passageway is crowded with traffic going in both directions. Can that many people not know the difference between their right and left? Then you hear someone say that the starboard side of the ship is full of smoke, and almost immediately, you encounter smoke.

It's decision time. It's just you, now. Your roommates have been lost in the crowd. That's not a problem; you know where you are and where you are going. There are three choices: You can stay on the 03 level and reverse your direction, you can go down to the second deck and head for your battle station,

or head for the ready room. By now, you have a general idea where the fire is in relation to your position, but still no idea on what level. You decide to make a play for the second deck. You lose the crowd momentarily as you climb down the ladder. Once on the second deck, you are in the crowd again. Traffic is

Fire! Fire!

56

By Lt. N.A. Trongale

moving slowly. The sailors are composed, but, although there is no panic, you can see the fear in their eyes.

To add more atmosphere to the situation, a Marine security detachment with .45-caliber automatics, runs down the passageway in response to a security alert. They announce they are "coming through," a la "The Final Countdown." It's crowded and confusing, but you know enough to find a cubby hole and hit the deck. A sailor nearby doesn't. You help him up, make sure he's OK and send him on his way.

Still in transit to your battle station, you hear "Condition Zebra will be set in four minutes." Of course, it couldn't be set immediately; it would trap sailors in smoke-filled compartments. You continue toward the ready room. You begin to encounter smoke again. Some sailors are donning OBAs. They say it's alright to go through, so you duck down low under the smoke and go. The ready room is not far now. It's in sight, and you open the door. About half your squadronmates are already there. They are cool. Aviators know it's uncool not to be calm and collected under adverse conditions.

Other squadron members call in from other spaces to say they can't make it to the ready room. At least everyone is accounted for. Now, you sit and wait. You think of the escape route if the fire spreads and you have to evacuate. You listen to the Damage Control Officer on the IMC directing the firefighting from Damage Control Central. You sit and wait some more.

Each stateroom has an Emergency Escape Breathing Device (EEBD). Why



Ned Baumer

didn't you take it along? Your room wasn't filled with smoke, but you may shortly be in an area that is. Was there a flashlight in the stateroom? Why didn't you take that, too?

Did you know alternative routes from the stateroom to the ready room, hangar bay and flight deck? Did you ever practice them blindfolded?

The dangers of fires aboard ships are very real. Buy a flashlight and keep it by your rack. Know and practice several exits from the spaces that you use the most. Take your EEBD with you if you are exiting your stateroom or berthing in case of a fire, and know how to use it. This fire scenario is probably the easiest one you will encounter. A worse situation can happen any time. ➤

Lt. Trongale is assigned to VAW-112.

Vote of Confidence

By Lt. Jeff Turner

IT was a lazy refresher training (REFTRA) afternoon. After two consecutive General Quarters drills and the first launch of the day, I wandered to the ready room to ponder the latest issue of *Hook* magazine (I had already read *Approach*). Today was looking good: My LSO team was waving. Perhaps I would start waving this night to get another check in the block toward a squadron qual. A few minutes later, I looked up and noticed the PLAT cross-hairs were on TV. Having a cruise under my belt, I had a hunch something was up, so I walked next door to Air Operations. I discovered a Corsair rep huddling over the console with a handset growing out of his ear. After I inquired, he told me 301 was coming back with a total fuel-transfer failure. "Twelve hundred available," I thought. Alarm bells rang in my head. Realizing the LSO platform was unmanned, I imme-

diately left Air Ops to start setting up for the recovery.

Air Ops was calling for CAG Paddles as I raced to the platform, my excitement mounting. After stopping by my team leader's ready room, the two of us quickly manned the platform. Neither of us possessed the wing LSO qualification necessary to "legally" bring aircraft aboard. We got busy setting up the HUD, consulting the NATOPS PCL, establishing communication and adjusting the lens. The lens had been switched on despite the fact that the platform was not legally manned and ready. I knew the Corsair rep had thoroughly discussed the emergency with the pilot of 301, but a couple of questions remained. Was the wing fuel at or below 1,000 pounds and what was his final approach airspeed? Although we were satisfied the A-7E was at or below max trap and the platform was ready for

recovery, our concern grew. Where was CAG Paddles? What if 301 showed up at three-quarters of a mile before he arrived?

Just then, the Boss called inquiring if we were manned and ready. Were we? Technically not. However, nearing my squadron qual (in A-7s) with a team leader (F-14s) to back me up, we could get the job done. The weather was good, clear and 10, and the deck was steady with the winds right down the angle. I told the Boss I was on the platform and that an extensive search was underway for a wing-qualified LSO.

301 called eight miles with intentions to dirty at three. We triple-checked the lens settings, made sure that we were targeting the proper wire (two wire with no four wire) and that we had a green deck. We discussed the use of informative and mandatory calls for going high or fast. We were as ready as we could be. 301 was at four miles. I had just picked up the phone to the tower to discuss our predicament with the Boss when CAG Paddles arrived.

A sense of relief prevailed as Paddles took the pickle, but also a mild sense of disappointment in not being called upon to complete the recovery. We were proud that we had recognized and prepared for what could have been a potential mishap had we let the aircraft bolter and possibly flame out. We felt confident of our abilities to accomplish our task based on the training we'd received and the experience we'd acquired through the years of LSO apprenticeship, both ashore and deployed.

301 flew an OK, target two, under CAG Paddles control, and I think that would have been the result if the wing LSO had not arrived.

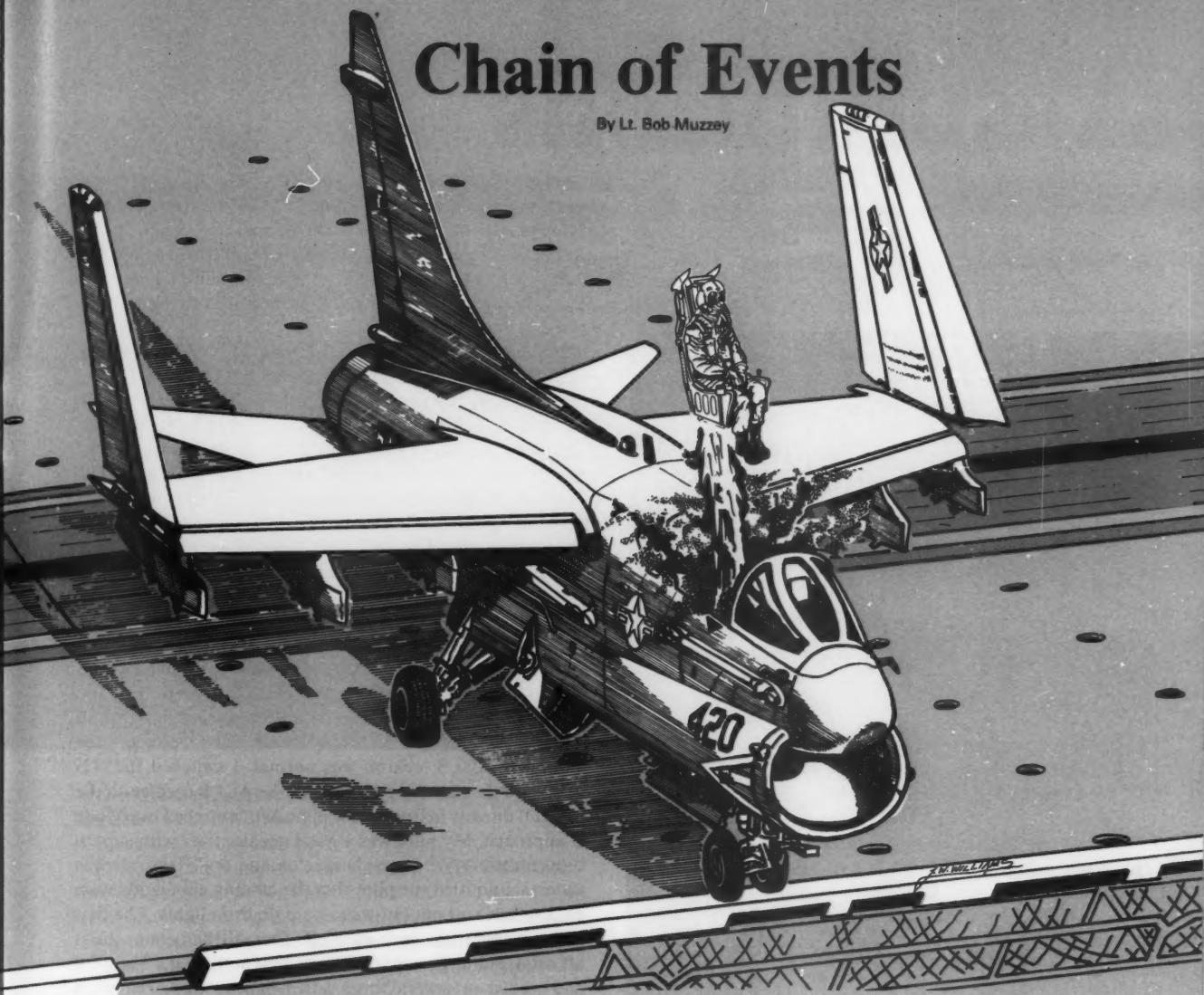
We discussed the situation with CAG Paddles after the recovery. He agreed that if a time-critical emergency did show up under adequate weather and deck conditions with the aircraft exhibiting normal flight characteristics, operational necessity dictates an attempt be made to save the aircraft. □

Lt. Turner is an A-7E pilot with VA-27 at NAS Lemoore, Calif. He's assigned as line division officer, with billets as mine warfare officer and landing signal officer. He has recently surpassed 1,000 accident-free flight hours.



Chain of Events

By Lt. Bob Muzey



... We looked over to see an out-of-control A-7 with no brakes rolling past us at high speed. It crossed the catapult track and proceeded over the side ...

AN aircraft carrier flight deck is one of the most dangerous places on earth, especially when situational awareness breaks down. The flight deck then becomes a deadly place to work. Fortunately, as the following event illustrates, when the flight deck crews are alert, situational awareness will save lives.

We were preparing for a Case 1, day VFR, SSC hop. The standard SOP brief was completed before man-up. The aircraft was up, and we were set to go flying. We taxied the aircraft to cat 3 and prepared to go in tension.

Suddenly the taxi director and the catapult officer gave us the hold signal. We looked over to see an out-of-control A-7 with no brakes rolling past us at high speed. It crossed the catapult and proceeded over the side. The pilot ejected safely before the aircraft left the deck. Had the A-7 crossed our path 15 seconds later, or if the cat crew had allowed the launch to continue, the results would have been catastrophic.

Because of the lineup of aircraft on the flight deck, we were not aware of the A-7 until it crossed our path. The situational awareness of the catapult crew in halting our launch broke the link in the chain of events and prevented further tragedy.

Lt. Muzey is the aviation safety officer for VS-29, an S-3 squadron based at NAS North Island, Calif.

Assumptions

By Cdr. John Dinger



MY first squadron CO said it best: "You have to remember one thing about naval aviation — everyone out there is trying to kill you. You have to watch out for yourself. Never assume someone else will take care of you or that they are doing their job. Check up on them constantly. Everyone knows what the word 'assume' really means." Yes, he was very wise and experienced.

So there I was, flying in the front seat of our Prowler on a night Case 3 approach with an experienced Category 2 pilot. Crew concept has always been pushed a lot in the Prowler community, as it was in our squadron. We had flown together (my pilot, two junior EMCOs and myself) for part of work-ups, a cruise, and the start of another quick turn-around work-up period. We were comfortable together. We knew how each other thought and what to expect. We were good and we had a lot of fun doing it. The hop was uneventful, at least as much as a night AIC hop from the ship can be, until the final approach.

On that particular ship, the Prowler routinely came down the chute number three at night behind two sacrificial A-7s. They supposedly had the gas to go around if the deck wasn't ready. The weather was relatively clear with a moon, stars, and most of all, a good horizon. I called the ship "in sight" on the ICS, secured the radar and continued to monitor the approach. ACLS lock-on was normal. I switched the ILS needles to the standby gyro and put the ACLS needles on the big ADI directly in front of the pilot. We continued our Mode II approach. My pilot was a good needles flyer with superb concentration. We were always "on and on." Tip-over was normal. I notified the pilot that the landing area lights were on, the lens was on, but there were no drop lights. The first A-7 received a foul-deck wave-off. They still had one to shoot off cat 4, although we didn't know that at the time. The pilot had peeked out several times, a firm believer that one peek is worth 1,000 scans, and continued to fly a rails pass. It was going to be close, but I thought we might just make it.

Radio calls had been normal. We got the standard "You're at a mile and quarter, on and on," which I acknowledged. We got to three-quarters of a mile expecting the standard call, "Three quarters of a mile, call the ball." We heard nothing. Things just didn't seem right. There was just what seemed to be an extremely long silence. Lens on, centered ball, landing area lights on, no drop lights and some other lights in the landing area. I made an abbreviated ball call. Nothing. My pilot said, "This isn't right." I said, "You're right," and we waved off. A couple of seconds (maybe not that long — time warp again) after our Prowler came to full power, we heard two or three different voices yelling, "Wave off, wave off!" I acknowledged the call as we passed the ship in our climb. Our scan was back inside the cockpit so neither of us saw the wave-off lights, which reportedly also came on. We settled down and came around for a truly uneventful OK 3-wire.



PH3 Doug Houser

Arriving in maintenance control, we were told our CO (who had been in CATCC) wanted to see us.

What went wrong and why?

First, we had launched with a known UHF radio bleed-through problem. Both UHF radios could be heard with either one selected. Not a big deal. An irritation, yes, but not a big problem. Wrong! We had assumed the bleed-through problem was minor and wouldn't affect us. We missed a CATCC call at one mile telling us, "Climb to angels 1.2 and upon reading, turn downwind." The call was made, it was on the tapes, yet, no one in the aircraft heard it.

Second, when the ACLS controller told us to take it around, he assumed we heard the call, which was not acknowledged. He switched frequencies and started acquiring an A-7, number two behind us.

Third, when the ACLS controller dropped us from the system, the needles went centered and centered — no help there, because they were always centered. Also, the tile light on the top of the ACLS ladder light panel had been taped over, a common procedure in the community at the time. We had older aircraft in which you could not control the brightness of the dreaded tilt light. It was extremely bright and disconcerting in its unmodified condition. We had seen the tape during preflight. The light could be seen. We assumed it was still bright enough to get our attention. Wrong! The light probably came on, the ACLS system worked 4.0, but in the heat of battle it was not bright enough to get our attention.

An AFC finally fixed the problem.

Fourth, the LSOs heard CATCC's call, assumed we were going around and ducked down to get out of the blast from the final A-7 launching off cat 4. They also didn't hear the ball call due to either the A-7's noise or because they were switching to the next aircraft's frequency.

The guys in back stated we bottomed out at 170 feet. I didn't notice the altimeter nor did the pilot. We were making sure our sleek greyhound of the sky had the right attitude and was climbing. The noise of our two J52s winding up to full power and the diminishing A-7 noise (he had just launched) got people's attention. The LSOs heard the noise, turned around, saw the Prowler approaching the still foul deck and started yelling, "Wave off, wave off!" Simultaneously, the Air Boss, who was watching the A-7 launch and the crew cleaning up the waist, caught our light in his peripheral vision, turned and also yelled, "Wave off, wave off!" He had assumed we were going around and also missed our ball call.

The LSOs were upset. The Boss was upset. CAG was upset. The CO was upset. And we were upset, but also relieved. We had figured it out, made the right decision, and side-stepped another bullet. We had assumed ourselves into a hole that, combined with a bunch of other assumptions, nearly resulted in a disaster. We were lucky. Several of us had made bad assumptions and we still got away with it. We all learned a very old and often repeated lesson that night: Never assume anything.

Cdr. Dinger is the commanding officer of VAQ-130.

Partial Panel? No Sweat!

By Lt. James D. Eberhart

"Tomcat, ball," I call, "8.0, partial panel." The LSO responds, "Roger, ball, Tomcat, deck's pitching, nice and easy with those corrections." Easy for him to say to this nugget. We were on NORPAC ops in the Gulf of Alaska, at night, in the rain. The deck was pitching and rolling. It had been six days since my last night CV landing.

What began as a routine mission was about to become a serious test of my ability as a naval aviator: trapping aboard an aircraft carrier at night with no VDI, the primary attitude reference in the F-14, and an intermittent HUD. Another malfunction had denied me full use of my rudder authority, which is critical if you lose an engine, perhaps fatal. The LSO calls, "You're overpowered; you're high. DLC, bolter, bolter!"

Now, I was really in trouble. But, wait, my HUD's working again which meant I had something other than just a TACAN, namely precision needles. "There is a god," I thought.

The trip around the bolter pattern gave me a few minutes to settle down and think. "OK, let's get down to basics here. Fly good needles, don't come out of the cockpit and fly the ball too early." All the things I practiced during FCLPs and in the simulator. I make another call.

"Tomcat, ball, 7.0." I was three-quarters of a mile behind the ship with a good start.

"Thirty-seven knots of wind over the deck," the LSO calls, "you're overpowered."

"Not this time," I thought, "keep your scan going, there you go, a little power to catch it, and...trap." I was safely aboard. Later that night, I sat and reflected on what I had learned. Why had I handled a situation, which had unlimited potential to become a life-threatening ordeal, relatively well? The answer was easy: practice.

In the days and weeks before we deployed, I had practiced emergency approaches in the plane and in the simulator. As I returned to Miramar from night FCLPs at San Clemente, I would purposely turn off my VDI and shoot partial panel approaches. In the F-14 simulator, I challenged myself with minor emergencies and good-weather conditions, progressively increasing to major emergencies and extremely poor weather. I flew these simulated night CV approaches with two engines, single engine, full flaps, no flaps, partial navaid and every combination thereof. The payoff should be obvious. In retrospect, however, there are two major factors that stick out in my mind. First, my instrument scan did not break down in an extremely difficult situation. Second, my anxiety level was minimal, which I attribute to the earlier training. It was a situation that I had simulated and practiced.



The story could have ended differently. The simple fact is that training paid off. I think there is a tendency — I have been guilty myself — for fleet pilots to brief emergencies well but not practice the procedures. Tactics and weapons systems are challenging and fun and take up the majority of our time. Simulators are an inconvenience, and emergency FCLP periods a necessary evil. It's time to get back to basics in this area; the increasing number of naval aviation mishaps tell us that. Knowing emergency procedures and executing them are two different matters. Practicing these procedures did not end when we got our wings of gold, nor when we finished the RAG. 

Lt. Eberhart is an LSO and legal officer in VF-114.

Hook Down?

By Ltjg. Robert S. Martin

THE morning started as just another routine day at sea. The carrier had pulled anchor that morning after nine days in port at Naples. Everyone was well rested and looking forward to flying.

I was scheduled for a routine air intercept control (AIC) hop. Our squadron had participated in many of these events, and preparation for the flight was minimal. We were merely to act as a bogey for the fighters. The only variable for me was that I wasn't flying with my regular pilot; today, my pilot was from the wing staff. We had flown together before, though.

After the brief, we suited up and headed for the flight deck to preflight our jet. Though the flight deck environment is hectic and requires a crew to rapidly complete all checklists prior to approaching the catapult, my pilot and I had no problem working together to complete this task. Problems started after launch when we got an unsafe nose gear up indication. While I was pulling out the emergency checklist, I reminded my pilot not to exceed the gear retraction limit of 200 KIAS. Basically, the checklist called for lowering the gear and landing as soon as practical. That could mean two hours in the overhead pattern waiting for our scheduled recovery time. So, we decided to obtain a visual check from another Prowler that was already in the overhead pattern preparing to land. The other aircraft confirmed our nosewheel well doors were open and there was no chance of completing our AIC hop. We lowered our gear and focused our attention on whether we

would be able to land during the next recovery or have to wait in the overhead for two hours.

Since the ship wasn't able to supply a tanker to keep us airborne, we were directed to land during the next recovery. We dumped down to landing weight and went through the standard landing checklist. I called for the gear while visually confirming the three down and locked indications. My pilot called three down, stabilizer shifted, flaps 30 degrees and slats out. Lastly, I gave him an approach speed, and we were all set — or were we? We flew a nice pass all the way to touchdown, a sure 3-wire.

On touchdown, we didn't feel the familiar tug on the aircraft after the hook engages the arresting wire, and we continued off the carrier for another trip around the pattern. A call immediately came over the radio that our hook was not down. We looked at each other in amazement. Both of us had missed putting the hook down. Why? My regular pilot routinely pulls the hook handle several times while in the pattern, and recites the entire checklist while I visually double-check the gear and compute an approach speed. I

developed a habit — a part of crew coordination — of not asking for the hook; after all, the pilot pulled on the handle many times during an approach. However, my new pilot never touched the handle, and I never thought to call for it. The pilot's reason for not lowering the hook was that he never received the flashing indexers that indicate when the aircraft is in the landing configuration, the hook bypass switch is in arrest, and the hook is up. The malfunctioning indexers and the fact that I never read the landing checklist resulted in our touch-and-go landing.

The moral of the story is simple: A checklist should never be assumed to be complete. It is the only consistent thing in an ever-changing, unpredictable cockpit environment. Since I was used to my regular pilot doing the checklist and seeing him pull the hook handle, I never pulled out the checklist and read it. Crew coordination is fine, but in this case, it broke down and led us to an embarrassing situation that put us that much closer to a bingo fuel state. A bingo situation is an emergency, and we exacerbated our situation by not reading the checklist completely. ▶

Ltjg. Martin is an NFO with VAQ-140. He is the squadron's First Lieutenant.



Some Advice From an Old LSO

By Lt. Charlie Hautau



ABOUT six months ago, I reluctantly put down my paddles. Here are what I consider some of the best thoughts I compiled during my career.

The worst from the best. Some of the worst passes you see are the ones on a beautiful clear day in perfect conditions by competent senior pilots. You expect the worst from a nugget, but it's the curveball the Skipper throws you that takes your breath away. Be ready when you grab the pickle!

Platform discipline. You could write a book on this one. The team leader sets the tone for the recovery. Talking stops when someone is on the ball or rolls in the groove. Spectators have to be limited. Business first.

The proper priorities. The guys on the pickle have to be aware of what's happening to all aircraft from the 180 to touchdown. I know everyone's going to say that's in the job description, but you see too many controlling LSOs buried in the grade book while some Corsair is going to hit the water at the 90, or worse yet, land on a foul deck. The controlling LSO has to be looking *aft*, and the writer has to do what it takes to get the pass jotted down without being a distraction. When all else fails, wave the airplanes and reconstruct the grades afterward.

A good team leader. There's no cookbook for this. He makes sure everyone knows his job, and he trains new guys. Is someone timing intervals? If the backup LSO makes a call, does he now become the controlling LSO? Are his trainees getting enough pickle time? Are they writing down passes as they see them individually and comparing them with the book? Is the team briefed and debriefed before and after recoveries? **It's not your job to fly the airplane.** Don't feel committed to power someone

into a 3-wire if he's going to fly a safe, below average no-grade 1-wire all by his lonesome. There'll always be situations where "paddles contact" is correct, but liplocking even a T-2 student is usually unnecessary. If you've bounced them right, they'll usually do just fine with little more than "Roger ball."

About wave-off windows. When in doubt, err a little long. Don't let the boss let you move it in, unless he wants to take over and wave a ramp strike by himself.

Watch your English. Everyone has different ways of explaining a pass, but "not enough power in close, come down to land" is a poor explanation for a taxi 1-wire. Did the A-6 come down, or did he fly through? Was it not enough power, or over control, too much power out of turn? If you're going to spend time getting a good eye, spend time translating what you visualize to shorthand succinctly and accurately so that you can do justice to your air wing buds or students during a debrief.

Debriefs. Look the pilot in the eye, tell him the pass, then the grade. Don't say, "OK, it was fair. . ." You just lost whatever training you might have gotten out of the landing. Discussions are optional, but in squadrons, that's what trend sheets and analysis with your own LSOs are for. Arguments? Never! "But I didn't see that" comments are, no doubt, truthful admissions of fixating on one thing or another. It's difficult to see a low ball in a Tomcat if you're near-stall, when you caught the 1-wire.

Ex-LSOs are the worst S.O.B.s to debrief. Probably because they wish they were waving passes again. Meanwhile, I'll be watching the plat. See you in Ready Six!

Lt. Hautau was an LSO with VA-65 and VT-9. In 1985 he was named CNATRA LSO of the Year. He is currently assigned to VA-34 as Quality Assurance Officer.

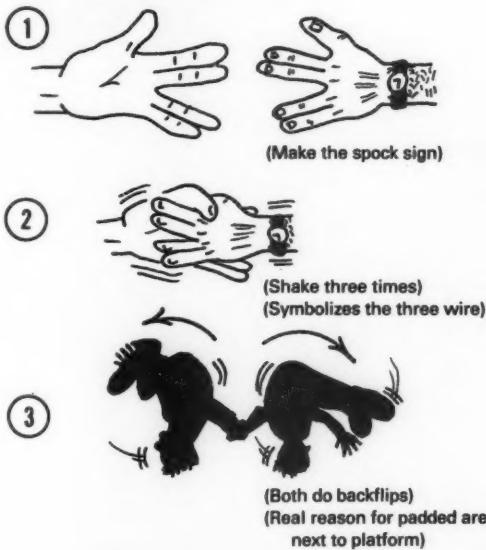
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VF-3.14 finds itself in need of an LSO as "Ragin'" Mike Kagan abruptly drops his letter...



Items in "Ragin'" Mike's passdown . . .

The secret LSO handshake



And don't forget daily changing MIC clicks on the ball

Items not in "Ragin'" Mike's passdown

The pinpoint brief

"Okay, who was out there? Wiglit? You freened at the ball call, a little high in the mungdud, ease gun with a half twist, fly through the wake to a taxi one bolter . . ."

"How's that?"

"Ah . . . It was kind of dark out there, and I couldn't really see what I was writing."

"You were in an S-3, right?"

The LSO accountability matrix



The Northern Wedding flex-deck

"What do you think, Doc?"

"Have some corpsmen carry him to the ninth deck and thaw out."

LSO . . . It's a tough job, but you get out of watch if you do it!

